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"ITO was a boy of twelve when Perry's squadron ran into the Bay of Yeddo," is the opening paragraph of a biographer. "I was sixteen years old when Commodore Perry came to Japan," begins Count Okuma, Ito's compeer, in giving a sketch of his life. These citations suggest that everything in modern Japan has some dependence upon or relation to the memorable entrance into the forbidden waters of Japan of the American Commodore, at the head of a formidable squadron, bearing a letter to the Emperor from the President of the United States. That event and its consequences shaped the early life of Ito Hirobumi, and have in large measure influenced the entire career of this most distinguished of living Japanese statesmen. Therefore a notice of the visit of Commodore Perry to Japan and its antecedent history seems called for, in order to form a proper estimate of the subject of this paper.

The Perry Expedition of 1853-4 had for its object the opening of the Island Empire to diplomatic and commercial intercourse with the outside world. But this empire had not always maintained a policy of exclusion. A doubtful tradition of its people refers to an early period of intercourse with Mexico and to amicable relations with Persia many centuries ago, and authentic history gives accounts of embassies and intercourse with Corea and China dating from two thousand years ago to recent times. Japanese mariners had sailed their ships to all the countries of Asia, and from the time the first European came into the Pacific, through the sixteenth and

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seventeenth centuries, Japanese vessels carried on commerce with India, Siam, Malacca, the Philippines, China and Corea. Japan was discovered by the Portuguese in 1542, and for a full century thereafter commercial intercourse was conducted with the Portuguese, Spaniards, Dutch and English.

In 1549 Francis Xavier, the great missionary apostle of the Jesuits, began the propagation of Christianity in the country, and it is estimated that in 1605 its adherents numbered 1,800,000. As indicating the prosperity of the Church and the spirit of toleration of the period, it is recorded that in 1583 an embassy of imposing *personnel* from two of the powerful princes of the empire visited Rome to wait upon the Pontiff Gregory XIII., and attended the installation of his successor, Sextus V. Friars of all orders abounded in the country, and their rivalry was a source of disturbance to the native Christians if not to the authorities. The origin of the persecution which arose is the subject of many conflicting statements, but by 1639 neither a missionary nor a merchant—Portuguese or Spaniard—was to be found in the empire, and it was supposed that every native Christian had recanted or been slaughtered. By the edict of the mighty warrior Iyeyasu, the founder of the Tokugawa Shogunate, the landing of foreigners on the Japanese coast and the departure of natives were forbidden. Only the Dutch, not of "the evil sect," were permitted to remain, and they were shut up to the little island of Deshima, in the harbor of Nagasaki. Thenceforward for more than two centuries the liberal policy of foreign intercourse was reversed, and only through this small Dutch factory with one ship a year did the Japanese Government and people communicate with the outside world.

But this policy of exclusion was destined to be overthrown by the commercial spirit of the nineteenth century. Hardly had the independence of the United States been attained before the adventurous American merchants had sent their ships around the globe, in a few years their commercial houses had found a foothold in China, and their whaling fleets were in all the northern waters about China and Japan. The British merchants had pushed up from India and were competing with their kinsmen for the rich trade of the Far East. The British opium war of 1840 had established Hong Kong and opened the ports of Canton and Shanghai. The American Union had already extended to the Pacific coast, and a thriving commerce with the Orient was passing through the Golden Gate. The Island Empire lay in the track of commerce, its harbors were necessary ports of call for water and supplies, and its coal was a requisite for the steam vessels then just coming into general use. American and other vessels had been driven by stress of weather into the closed Japanese ports, their cargoes

plundered and the crews imprisoned and maltreated. From 1840 onward various vessels, naval and others, were dispatched by the English, American and Russian Governments seeking to communicate with the Imperial authorities, but in all instances they had been warned away.

Finally the Government of the United States decided that the time had fully come when Japan must be opened up to intercourse with other nations. This decision was to be executed through diplomatic effort backed by military display. The task was entrusted to one of the most prominent and prudent officers of the United States Navy, Commodore M. C. Perry. Preparations were made with deliberation. The officers, the scientists, interpreters, etc., to be attached to the squadron were selected with care. A collection was made of useful and curious instruments, machines and other articles representing the advanced state of civilization, as well as the presents to be made to the authorities of the Japanese Empire. Daniel Webster, the Secretary of State, draughted the letter of the President of the United States addressed to "His Great and Good Friend" the Emperor of Japan, explaining to him in careful terms the objects of the mission.

President Fillmore, the Secretary of the Navy, and a numerous delegation of officials went to Annapolis to bid farewell to the Commodore, and on November 24, 1852, he passed through the Capes at Fortress Monroe and put to sea. After various delays *en route,* via the Cape of Good Hope and China, the squadron sailed into the Bay of Yeddo on July 8, 1853, and anchored off the town of Uraga. The Japanese native chronicler records: "The popular commotion in Yeddo, at the news of 'a foreign invasion' was beyond description. Rumors of an immediate action, exaggerated each time they were communicated from mouth to mouth, added horror to the horror-stricken. The tramp of war-horses, the clatter of armed warriors, the noise of carts, the parade of firemen, the incessant tolling of bells, the shrieks of women, the cries of children, dinning all the streets of a city of more than a million souls, made confusion worse confounded."

The officials, however, were not taken altogether by surprise, as they had been informed of the coming of the squadron through the Dutch factory at Deshima. The next day the Governor of Uraga came on board and gave notice that it was unlawful for foreign vessels to enter the Bay of Yeddo, and that they must depart at once and go to Nagasaki, which was the only port they could lawfully enter. This notice Commodore Perry declined to observe, and gave it to be understood that his mission was a peaceful one, but that he did not propose to withdraw till it was accomplished. Further conferences were held and some days were consumed in securing a proper delivery of the President's letter to the Emperor, the

Commodore declining to place it in the hands of any official except one of equally high rank as himself. Finally the letter was delivered in a golden box costing one thousand dollars, so the narrative states, on July 14, with much pomp and ceremony, and on July 17, the squadron sailed away, the Commodore giving the authorities notice that he was called to China, but that he would return in the spring to receive the Emperor's answer to the President's letter asking for the establishment of diplomatic and commercial intercourse.

As was to be expected, the visit of the American squadron caused great excitement in the Court of the Shogun. Copies of the President's letter were sent to all the daimios and the principal state dignitaries, and many conferences were held before the return of the Commodore, the prevailing sentiment being that the President's request should be refused and the hated foreigner sent away. The forts of Yeddo were strengthened and new ones built. Bells of the temples and metal articles of value were contributed by the nobles and wealthy for the manufacture of cannon, and before the return of the fleet three hundred thousand armed patriots had assembled at Yeddo, the Shogun's capital. On February 13, 1854, the American squadron again sailed into the Bay of Yeddo, recruited from the Navy on the Chinese station, and ten vessels of war dropped anchor, constituting the most formidable naval display ever seen in Japanese waters.

The negotiations were very soon opened, but they were destined to be prolonged through days and weeks, with visits, conferences, banquets, exchange of presents, and ceremonials, the Japanese commissioners seeking by evasion and equivocation to postpone and avoid a definite answer. The Commodore was patient, but dignified and firm, ever keeping in view the great object of his mission. Meanwhile his officers and scientists were explaining the uses of the presents they had brought. The improved firearms were tested. The locomotive was disembarked and a short railroad was put in operation. The telegraph wires were strung and that marvel of the epoch was exhibited. Manœuvres of the squadron and the various mechanical improvements of the age did not fail to impress the natives with the great physical superiority of the foreigner. The inevitable came at last, and the treaty of amity between the United States and Japan was signed March 31, 1854. It was followed in October by a similar treaty with Great Britain, with Russia in February, 1855, and with other European nations later.

This is not the place to discuss the effects of the treaty further than the subject of the present paper requires, but it may be of interest to note that last year a monument was erected by the Japanese people on the spot where the treaty was signed, in honor of Commodore Perry and to com-

memorate his great achievement. The Association having the movement in charge, the President of which was the Japanese Minister of Justice, in the circular setting forth its object, said:

"This visit of Commodore Perry was, in a word, the turning of the key which opened the doors of the Japanese Empire to friendly intercourse, and may, in truth, be regarded as the most memorable event in our annals—an event which paved the way for and accelerated the introduction of a new order of things, an event that enabled the country to enter upon the unprecedented era of national ascendancy in which we are now living."

The Japanese historian Mitsukuri, in a recent statement respecting the relations of the United States towards Japan, thus referred to this event: "Your great Commodore, Matthew C. Perry, when he sailed into the Bay of Yeddo in the month of February, 1854, became our liberator. We have erected a statue to his memory, but his fame shall be preserved in a manner more enduring than stone or brass."

The immediate effect of the treaty with the United States was to create throughout the Empire a spirit of opposition to the Shogun and a feeling of intense hatred of foreigners. After the various treaties went into effect, legations were established at or in the vicinity of Yeddo, and foreign merchants and others settled at the treaty ports. In the next few years a series of assaults on foreigners were perpetrated. Several lives were lost, among them the American Secretary of Legation was assassinated, the British Minister assaulted and his servant killed, and the American and British Legations burned. The Regent of the Shogun was assassinated because of his friendliness to foreigners.

As he grew to manhood young Ito participated fully in the frenzy of hatred which prevailed. He was a retainer of the powerful Daimio of Choshiu, one of the leaders of the anti-foreign party. If he was not a participant in the burning of the British Legation, he was near at hand and privy to it. His hatred of these "invaders" of his country was so intense that at the age of twenty, he, in company with a few associates, formed the plan of going to England to study the secrets of European power, so that on their return to their native land they might be more effective in their opposition. The law was then still in force which pronounced the death penalty against those who left the country. By this act he became a *ronin*—a quasi outlaw, for whose conduct his prince or chief was no longer responsible. One of his associates was Inouye Kaoru, thereafter through life Ito's intimate friend, and one of the most useful and distinguished of Japanese statesmen. The story of their daring escape and trip to England has often been told, but with so many conflicting incidents, I venture to

repeat it as it was received from the lips of Inouye himself and almost in his own language.

Ito, Inouye, and three other young companions resolved to go abroad to learn by personal observation the actual source of the military strength and other conditions of the "foreign devils," in pursuance of a maxim of warfare they had been taught, that to fight a successful battle you must first know the condition of your enemy. After their attack and burning of the British Legation they hid themselves for a few days, and then having arranged for their passage in advance, they stealthily repaired to the house of Jardine, Matheson & Co., an English mercantile and shipping firm, in Yokohama. By this firm they were shipped on board of one of their vessels going to Hong Kong, bearing a letter to the firm's agent in that port. On arrival there they were asked by the agent what they desired to learn in Europe. Inouye alone could speak English, and he only a few words. He unwittingly answered the agent, "Navigation." So he and Ito were shipped on a sailing vessel as common sailors, making the voyage via the Cape of Good Hope. It was a long, hard and sometimes very melancholy journey. When they arrived in Liverpool all hands went ashore, leaving only the two lone Japanese on board. While they were waiting for some one to come from the company's office to receive them, they grew hungry, and Inouye, being the eldest, ventured on shore to find something to eat. As he left the ship he traced his way through the streets with a pencil and paper, so that he would not lose his way back. Soon he encountered a baker's shop, and throwing a gold sovereign over the counter, the only coin he had in his pocket, he seized a loaf of bread and ran back to the ship.

When a person from the house of Jardine, Matheson & Co. came the next day to take charge of them, they learned to their great sorrow that their prince, the Daimio of Choshiu, had made open war on the foreigners and closed the narrow strait of Shimonoseki, and that the war of extermination and driving out of the foreign devils had already commenced. Although they had gone to Europe with the intention of better fitting themselves for the purpose of fighting the foreigners, yet a short stay fully convinced them of the infeasibility of such an undertaking, and when they heard that a war had already commenced, they feared the destruction of their country, and asked to be sent back to Japan, so that they might do something to avert the calamity.

Their request was complied with, and they returned in a British man-of-war, being landed in a port of their own Province of Choshiu. They arrived just as the combined British, American, French and Dutch naval forces were making their attack upon Shimonoseki. They found the whole clan in a state of great excitement and confusion, being divided into two

parties, one clamoring for a continuance of war, and the other advocating surrender and peace. They threw themselves into the midst of the contending factions, preaching the folly of believing themselves able to resist the foreigners. Inouye had before been a personal attendant to the young Prince, the Heir-Apparent, and enjoyed his confidence, and largely through this influence peace was made with the allied Powers, Inouye and Ito acting as interpreters in the negotiations.

The foregoing narrative furnishes the key to Ito's character and life-work. An intense hater of the foreigner, he conceived the idea of going into their own country to learn the secret of their strength in order to use it against them. His eyes were opened by his journey to Europe. He came back to his country fully resolved to do his part to bring it out of its seclusion, and make it the equal of the most enlightened nations of the world. He had just attained manhood, and he entered upon his work with the same resolution which led him to undertake the long and unknown journey to Europe.

Although still a young man, he took an active part in the stirring events which followed the opening of the ports, as a result of Commodore Perry's visit. I need not rehearse the conflict carried on between the Shogun and the adherents of the Emperor, which resulted in the restoration of the latter to the full sovereignty of which his predecessors had been deprived for centuries. Nor can I pause to tell the story of that other equally important event when the powerful daimios voluntarily surrendered their feudal rights and landed estates, and made the Mikado the real ruler of the Empire. Ito's first connection with political affairs was in his native province. His prince, the Daimio of Choshiu, was slow in learning the lesson which Ito had so soon mastered, and for a time the latter was subject to much persecution, and often his life was in danger; but when the tide of public opinion began to turn in favor of the liberal policy, he was appointed to the important post of Governor of Hiogo Kobe. This brought him into intimate relation with the Emperor's advisers, and from that time he has played an important part in his country's history.

In 1869 he made his first official visit abroad, being sent by the Treasury Department to the United States to study our system of finance. He was received by President Grant with great kindness, the Secretary of the Treasury opened to him all official avenues of information, and he returned to Japan ladened with information, and with a kindly feeling for our Government and people. After a brief stay at home, he was again sent abroad. This time he was made a member of the famous Iwakura embassy of 1871, numbering about fifty persons of prominence. It was received with much distinction in the United States and by most of the governments of Europe.

Probably no diplomatic mission ever sent to our country attracted so much attention or created so deep an impression on our public men and our people. Prince Iwakura, the head of the embassy, was a man of high order of talents, had taken a leading part in bringing the nation out of its seclusion, and had been greatly honored by the Emperor. James G. Blaine, then Speaker of the House, was the spokesman of Congress in welcoming the embassy, which he did in his best vein; but the distinguished audience was surprised to listen to a response from the Prince more than matching the Speaker in eloquence, in literary finish and in breadth of statesmanship.

Ito's knowledge of English and of American life made him a most useful member of the embassy. His address on landing in San Francisco attracted general attention, and during the visit of the embassy to the various cities of the country he took a prominent part in the receptions. The main object the Japanese Government had in view was to secure a revision of the treaties with the foreign Powers. It failed in this purpose, but the embassy had other important results. It impressed the nations visited with the high grade of culture and ability of the ruling classes of Japan; and on the other hand it opened to the numerous body of officials which constituted the embassy a new view of Western civilization and power. Ito and his associates returned to their native land to enter with new zeal upon the work of regeneration and reform.

The subject which had been the primary object of the embassy—the revision of the treaties—was one which was destined to absorb the attention of the statesmen of Japan for the next twenty years. Ito took an active interest in it from its inception, and he had the great honor and satisfaction of being at the head of the Government when the long-sought desire of the country was finally realized. When Perry's squadron opened up the country and, as Secretary Seward expressed it, "gently coerced Japan into friendship with us," the treaties which were framed by the United States and other nations followed the terms of the treaties which had been made by them with China only a few years anterior. These instruments contained two features which soon became both inconvenient and mortifying to Japan. First, they provided that foreign residents should be exempt from the judicial control of the country, and they were made subject to the exclusive jurisdiction of their own Consuls, applying to them what is known in international law as extraterritoriality. Second, a low tariff was stipulated on imports and exports, on most articles not exceeding five *per centum ad valorem*, and this tariff could not be changed except by consent of the treaty Powers, which practically required to be unanimous on their part. These became the chief topics of diplomatic discussion with the Western nations.

With its near neighbors, Corea and China, it had relations of quite a different character, and in these we find Ito taking an active part from the time he returned with the Iwakura embassy in 1873 up to the late Boxer outbreak. He is a man of peaceful inclinations, and the main object of his continuous efforts in these relations has been to prevent war. China, from its great superiority in population, its greater antiquity, and from the fact that it had given to Japan its language, literature, arts and religion, looked upon the Japanese as an inferior people and usually assumed towards them an aggressive attitude. The Corean difficulty was tided over in 1873, but ten years later the question was up again in a still more threatening manner and war seemed imminent. Ito was sent to China to negotiate, and he effected with Li Hung Chang, at Tientsin, a settlement in the treaty of 1885, which it was thought would overcome troubles for the future, but which proved a vain hope. It was at this time that Ito formed the acquaintance with this great Chinese statesman which ripened into a friendship lasting till the latter's recent death.

The great achievement of Ito's career has been the framing of the Constitution, under which the Emperor gave to his people a representative and parliamentary system of government. When he took his coronation oath he promised this reform, and as soon as expedient after the pacification of the country following the fall of the Shogun and the new relations established with the outside world, he set about a realization of his promise. The preparation of the Constitution which was to be the foundation of this reform was intrusted to Ito, and to it he devoted several years of careful study, in the course of which he made a visit to Europe to examine the various systems of government in actual operation, as he had familiarized himself with that of the United States on his previous visits. We are not surprised to learn that he made a careful study of the "Federalist," and that he found it more fascinating than a novel; nor that he entertained for the framers of the American Constitution the greatest admiration and appreciation of their abilities.

Under his supervision, also, more than that of any other public man, have the codes of law been framed and put in operation by which the entire system of jurisprudence, of society and commerce, and the administration of local and national affairs have undergone a complete transformation. It is the marvel of history that changes which have cost other nations centuries of struggle and bloodshed, should in this Asiatic country have been accomplished within a single generation and with so little hardship endured by its people. How great is the achievement may be measured in some degree by the contemporaneous history of China. That country, in the last century, received ruder shocks at the hands of the Western nations

and the object-lessons given it of its weakness and inferiority in government have been much more conspicuous than in the case of Japan. But it is to-day very little nearer the inauguration of the needed reforms in administration, society and jurisprudence than one hundred years ago. It required in the case of Ito only one trip to England as a youth and a look about him of a few weeks to teach him the needs of Japan. It is the sad fate of China that as yet not a single man of intelligence and courage has arisen with capacity and power sufficient to lead that great people out of their thralldom to the past.

But constitutions and codes of law were, in the estimation of Ito and his compeers, not the only needs of Japan. Every effort was put forth to take advantage of the improvements in commerce, the arts and education. Young men went in large numbers abroad for study and observation and to familiarize themselves with the new inventions, while the Government brought to Japan instructors in all the various departments of education and commerce. But Ito's idea of reform went farther. He laid great stress on the necessity for a change in dress. He claimed that unless these barriers were broken down the Japanese would be regarded only as Asiatics, with Oriental semi-civilization, and that a prejudice would exist which would retard the progress of the country. Said a very intelligent and liberal-minded Englishman of Shanghai, long a resident of China, to me: "There is no hope for China till her people change their dress. What respect can you have for a man in petticoats?"

After his return from the Iwakura embassy, Ito entered the Imperial Cabinet as Minister of Public Works, at the age of thirty-two, and afterwards held other posts in the Cabinet. He became Prime Minister in 1886, in which position he continued for three years, and in 1892 a second time was he called to this high office. During this latter term of four years he conducted his country through one of the most important epochs in its history, in which two events occurred which have had a momentous influence not only upon Japan, but upon all the leading nations of the world. The first of these was the Chino-Japanese war. While the army and the navy of the Island Empire were making for themselves a high place among the military powers, the task fell to Ito of providing the financial resources to carry on the contest, and when the short campaign was over he conducted the negotiations which brought about the peace.

In the hour of his country's triumph, he was forced to suffer a humiliation which cost him his office, but left no stain upon his honorable career. I think I am safe in saying that when Count Ito exacted from Li Hung Chang in the treaty of peace the cession of the Liaotung peninsula, he did it against his own better judgment. While it was a legitimate demand on

the part of the victor, he was too thoroughly conversant with the spirit which controlled the Russian Government to believe it would prove for his country a permanent acquisition. But he was compelled by the martial spirit which was then rampant and controlled the Court to insert in the treaty the cession of the peninsula. The far-sighted policy of Russia which brought France and Germany to her support, took from Japan the most highly prized of its spoils of war and reserved it as her early prey. The event left Japan in bad humor with her own statesman, and the inveterate enemy of Russia.

The other distinguishing event of Ito's second term as Prime Minister was the revision of the treaties, which released the Empire from the tutelage of the foreign Powers, and gave it an equal place among the sovereign nations. Its achievement was one of the first effects of the complete victory over China. The United States had long been an advocate of the policy recognizing this equal sovereignty, and as early as 1878 had made a treaty with Japan by which full power was conferred upon the latter to make her own tariff and regulate for herself her commercial affairs, and apply to foreigners her judicial system; but as the "most favored nation" principle was a necessary part of our intercourse with foreign nations, the enforcement of such a treaty had to be deferred until the other commercial nations could be brought to the same terms. Embassies had been sent to Europe and repeated efforts through the foreign Ministers resident at Tokio had been made with a view to a release from the treaty disabilities, but these efforts proved fruitless until through the signal victories over the Chinese she had vindicated her place among the nations. In the year following the war Great Britain signified her willingness to yield to the demands of Japan and revise the treaties, and her action was followed by France, Germany, Russia and the other Powers. The tariff disabilities were removed and all extraterritorial rights of foreigners were withdrawn, and for the first time in her history Japan stood before the world as a free and sovereign nation. It was a great triumph for the Prime Minister, but much of the credit for this achievement was due to Count Mutsu, his able Minister for Foreign Affairs, who had likewise been associated with him in the peace negotiations with China.

There is still to be mentioned an important result of Ito's second term. In a recent interview which he gave out from London, in referring to the great changes which had occurred in his country in the last thirty yeears, he places in the front rank the commercial development and the wonderful growth of the mercantile marine. The Chinese war had a marked effect upon this industry, and during Ito's administration its enlargement was placed upon a solid foundation. He states that since the Chinese war the

tonnage of the merchant marine has increased from 80,000 to over 500,000, while the total capitalization of stock companies and other commercial enterprises has advanced from $25,000,000 to over $250,000,000, or more than tenfold.

In the interview to which reference has been made his characteristic trait as a lover of peace appears. He places this commercial development high above the warlike achievements of the nation, and he dwells upon the great value of credit in business affairs to a people. He recognizes that Japan has suffered in the past from its reputation of lack of honor and fair dealing among its mercantile class. He admits that the foreign merchants who followed Commodore Perry's coming found a low grade of commercial morality, but he justly asserts that the first foreign merchants with whom the Japanese came in contact were themselves not over-scrupulous in their dealings. He attributes much of this unfavorable reputation to the evils of the treaty-port system, The following extract from his interview will be of interest as giving a good epitome of the commercial and social changes which have taken place in recent years:

"Happily the conditions have changed. Class distinctions and treaty ports are of the past. Merchants sit in the Diet; even the Eta, who had no class at all, has risen to that distinction. Intermarriage is legal between any two grades of society, so that the grades have practically disappeared. The samurai as a class do not exist, for with the abolition of the feudal system reason for their being disappeared. Even the forms of speech which formerly indicated differences in rank are modifying. In social relationships the old barriers are down. Japan is becoming democratic. In this process of readjustment the merchant class has profited greatly. The opportunities of trade, both from the national and the individual standpoint, have appealed to all conditions of men. . . . The sons of wealthy nobles are in counting-houses abroad studying foreign methods, prominent merchants are putting their sons in business colleges and are apprenticing them in foreign commercial houses, and the Government has established commercial schools of a high order throughout the Empire. The old-time merchant is gone, if not forgotten, and in his place is a new sort, trained and experienced, with the honor of this country and his profession at heart and an adequate idea of the value of integrity in commercial transactions. . . . The reports of foreign Consuls in Japan indicate that decisions of the Japanese courts are just, and as extraterritoriality is a thing of the past, this should be an evidence of Japan's good faith and determination to maintain a place high and honorable in the comity of nations."[1]

The disappointment and humiliation resulting from the forced retro-

[1] Marquis Ito's interview in the New York Independent Feb. 20, 1902.

cession of the Chinese territory occasioned a change of Cabinet, and Ito, notwithstanding he had been created a Marquis by the Emperor in recognition of his great services, was temporarily retired to private life. But he has twice since then held the office of Prime Minister, in 1897 and in 1900, the parliamentary system of government and the various party divisions having of late years brought about frequent changes of ministries. One of the latest reforms which Ito has sought to effect was the abolition of clan parties, which is a residuum of the old feudal system. He has made an effort to organize a party of modern methods with the enunciation of a specific policy or principles.

Although the Emperor often finds it necessary to yield to the demands of the parties and change his Ministers from time to time, Marquis Ito, even when not at the head of affairs, is seldom allowed to remain in private life. Following the deposition of the Emperor of China and the resumption of control by the Empress Dowager when a violent change in affairs was imminent, he was sent to Peking on a secret mission to the Imperial Court. The Boxer outbreak occurred too soon after his arrival to enable his mission to be effective, but the appointment indicates the high estimate which the Emperor places upon his services.

A short time ago he visited the United States for the fourth time, when he was the chief guest of honor at the bi-centennial of Yale University, and received the degree of Doctor of Laws. From this country he passed to Europe, it being given out that his visit was for health and recreation. But the signature of the treaty of alliance between Great Britain and Japan which so greatly surprised the Powers occurred so soon after his arrival in London that the sequence of these two events naturally led to the inference that he had much to do with the consummation of the alliance which is destined to exercise such an important influence in the affairs of the Orient.

The war with Russia, in which his country is now engaged, was declared under the premiership of another statesman; but the Emperor has kept in close communication with the veteran adviser, by whom he has been guided in the trying crises of his illustrious reign, and it is not to be doubted that his experience and judgment will be availed of by his Sovereign in this crucial period of the Empire.

Marquis Ito has just passed his sixtieth year, and it is reasonable to anticipate that much important work is before him in life. But there are few, if any, living men who have accomplished so much for their country and race. His biography is the history of Japan for the past forty years. He has had worthy coadjutors in the making of this marvelous history, but in the temple of fame which modern Japan shall erect to its heroes none will stand so high as Ito Hirobumi.

THE WEST IN THE EAST

MAX NORDAU.
PARIS

JAPAN, somewhat paradoxically, is included in the forward movement of the White Race which is to bring China under the influences of the West. The authors of this movement imagine that they understand the reason for their action, and the forces of which they dispose. Deep-seated, unconscious impulses, forces which escape the control of politicians and responsible statesmen, do not seem to play a part in the undertaking. It appears rather to be placed entirely in the sphere of clear consciousness and of voluntary effort.

A closer investigation will perhaps allow us to perceive that the unconscious and the instinctive are at work to-day as in the fourth and twelfth centuries, and that the inspirers of China adventure have scarcely rendered account to themselves of the deep roots and the more distant consequences of their action.

I.

Much of Darwin's teaching has been successfully attacked, but the law of the struggle for life has never been doubted by anyone. It pervades all life; astronomers even have tried to prove that the evolution of the heavenly bodies is governed by this principle.

Every living being, be it animal or plant, has the fundamental tendency to possess itself of the whole globe, and to use exclusively all its resources for the advantage of itself and its progeny. This impulse towards expansion and exclusive rule is limited, first, by unfavorable natural conditions, and second, by the similar impulse of other living beings. To the unfavorable natural conditions the living being must seek to adapt itself. It comes in competition with others of its kind in the struggle for existence. If one living being proves stronger than the other, the latter is expelled from its habitat or is destroyed. The victor maintains only so much of the globe as he can defend and utilize, and suffers the presence of the vanquished just in so far as he is of service.

The human species is subject to these elementary laws of biology just as much as are the microscopic algæ.

Man is the highest product of the evolution of life. His general power of adapting himself to circumstances, and the capacity of his central nervous system for development, render him more efficient in the struggle for existence than any other living being on the earth. He alone has approached near to the ideal of all living creatures, the exclusive mastery of the globe, and at some time he may attain this end. The animals which annoy him,

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be they large felines or small cats, venomous serpents or locusts, he destroys. The animals which are useful or give him pleasure, be they cattle or singing-birds, goldfish or bees, he suffers to exist. In the vegetable world he rules as master. He tears up the natural forest and dries the marshes and cultivates plants in the place of reeds and trees. He has also taken up the struggle with microscopical plants, with bacteria and micrococci, and seeks to destroy the pathogenic among them and to develop the useful—the saccharomyces which prepare his beer, or Winogradski's root bacillus which transforms the nitrogen of the air into nourishment for plants.

The struggle for the exclusive rule of the globe is not only between the human species and all other living creatures, but it is also carried on within the human species itself, by the White Race against the Colored Races.

I will not now discuss the question as to whether the human species was originally unique, and in the course of its evolution differentiated itself into sub-species, or whether the races which to-day are dissimilar, descend directly from ancestors, who, when they reached the human phase of their evolution, were already of closely related but different species. Our globe is inhabited by various races of men, but the White Race is the most powerful, and asserts its pre-eminence.

Where the White Race first made its appearance palæontology and anthropology can as yet give no definite answer. It seems even in Europe to have been preceded by Colored Races, for the Cro-Magnon and Neanderthal crania are very unlike the skulls of white men, and the images of prehistoric men carved and engraved in ivory and deer-horn in the museum of St. Germain show clearly negro or negroid types in the face formation and in the shape of the mammæ on the female busts. Our negro-like predecessors in Europe were either completely driven out or destroyed by the White Race. The insignificant survivors mixed their blood with that of their conquerors. Their type sometimes emerges atavistically, because of arrests of development or degenerative processes, evident in the case of criminals. At the dawn of history Europe and Nearer Asia are almost completely under the rule of the White Race, and all of the recorded struggles of which these territories were the theatre are between White peoples and not between the White and the Colored.

Some of the peoples of the Mediterranean were the first white men to swarm over the frontiers of the territories earliest accredited to their race, and break into the lands of the Colored tribes. In pre-historic times, Arabs from nearer Asia and Berbers, who came either from Europe or from the vanquished Atlantis, took possession of North America. In historic times Phœnicians, Romans and Germans invaded and colonized North African

territories. The Negroes, driven by the Whites from the coast lands of the Mediterranean, retreated into the interior of Africa. Greeks subjugated Egypt, where there were but few Whites among the original inhabitants, and came for a time, under Alexander the Great, into armed conflict with mixed Yellow tribes inhabiting India. However, the White people remained during Antiquity and the Middle Ages in the territories where they were at the beginning of history.

By the end of the fifteenth century the great work of differentiation and territorial delimitation of the principal peoples of Europe was almost completed, and the White Race began to look beyond the limits of its inherited continent. The era of great sea voyages began. America was discovered. The White and the Red Races came into conflict. The struggle between them lasted three centuries. In North America this conflict has practically been concluded for a century past. The wrecks of the aboriginal tribes in Canada and the United States are under the protective care of the Whites, the unchallenged masters of the country. In Mexico, Central America, and certain countries of South America, the struggle is yet without definite issue. Many Colored Races show inclination and capacity for higher civilization, and, with the help of education, an ability to maintain themselves against the white invaders. But here, too, the final result is not doubtful. Under the most favorable conditions the Colored people will mix with the Whites, and sacrifice their ethnical features. Under the pressure of adverse circumstances, they will awake to a consciousness of their individuality and, educated by civilization to jealous, exclusive nationalism, will try to resist by force the influence of the Whites. They are inevitably doomed to extermination. We therefore can say that America has been annexed by the White Race.

After America, Australia was invaded, and now there are no Colored people in Tasmania. There are only a few Colored people on the Continent; the Maoris in New Zealand and the Papuas on the Hawaii Islands are becoming civilized and will sooner or later be absorbed by the Whites; the Canaks of Micronesia are rapidly disappearing before the onslaught of civilization.

Africa lies near to, and has always been in constant communication with, the most advanced of the European countries; but, strange to say, it did not excite the desire of the White Race until after America and Australia were invaded. Until comparatively recent times the Whites have contented themselves with the annexation of the coasts and the carrying off of kidnapped Negroes to foreign countries. In the seventeenth century began the first serious move from the Cape against the countries settled by the Blacks. But it was reserved for the nineteenth century to see the whole

of the Black Continent partitioned among the nations of Europe. Morocco and Abyssinia have thus far escaped this fate. In Morocco, the ruling class of Arabic-Berber Moors is white. The Abyssinians, in spite of a strong mixture of Negro blood, also refuse to be regarded as a Colored Race. Morocco will, however, sooner or later, share the fate of Algeria, Tunis and Egypt, and it is not improbable that Abyssinia ultimately will be owned by Russia. It is difficult to know whether the Negroes will disappear before the Whites in Africa. The climate of Central Africa may be a protection and prevent the Whites from settling there permanently as they have done at the Cape, in America, and in Australia. But in any case the Negroes at the present time are, throughout the whole of their hereditary continent, a subjugated race. The Whites are everywhere their masters, and it is not probable that this condition will ever change. Mr. Rudyard Kipling does not go far ahead of history when he counts the guardianship over all African races as part of " the White Man's burden."

At the beginning of this twentieth century, the White Race holds Europe, America, Australia and Africa as its almost unchallenged possession, and has partly exterminated and partly subjugated the Red and Black Races, suffering them to exist only because they can render some service.

The moment has now come when the White Race will measure itself with the last Colored Race which has maintained itself in full independence—the Yellow Race. After America, Australia and Africa, the still autonomous part of Asia shall be brought into subjection. The immediate pretexts for the last expedition towards China seemed to be for political and economic reasons. Russia needs ice-free harbors in the Pacific, stretches her hand towards Port Arthur, Manchuria, Chi-Li and Corea. Japan seeks to outstrip Russia, at least in Corea. France, which after her severe misfortunes in Europe, feels the necessity of regaining self-confidence, has, after Tunis, taken Tonking, Annam and a part of Siam, and throws her shadow over Yun-Nan, Kwang-Si and Hai-Nan. England, which long ago obtained a firm footing in China, demands the recognition of Central China as her sphere of influence. Germany, keeping pace with her rivals, has seized her part. The United States, which rightly fears the selfish commercial policy of the European Powers, demands opportunities for trade. The occult motive-power of these movements, however, is the craving of the White Race for the accomplishment of its destiny on the earth, for the imposition of its exclusive rule over the globe. The conquest of the East is Natural History; it is a decisive chapter of anthropology, one might almost say of zoology.

II.

It is no hazard that the White Race will measure its strength against the Yellow only after it has subjugated all other colored races. Just as the anthropological or zoological instincts impelled it to test its organic superiority over the Red and Black man, the same instinct warned it not to estimate the Yellow man a weaker adversary than the Red and Black.

Asia can be reached from Europe on foot. It was known to the Europeans very early as the mysterious fountain-head of religions, tales and legends. The splendor of its world-empires blazed far away to the West, and undoubtedly among the old Gauls and Germans tales of the wealth of its countries and the magnificence of its cities were current. In spite of so many elements of attraction, it was long before Europe thought of regarding the splendors of Asia as close at hand, or of claiming her share thereof. The adventure of Alexander the Great, who advanced as far as India, found no imitators for a millennium and a half. Egypt did not penetrate beyond Palestine. Rome, and afterwards Byzantium, possessed Nearer Asia only as far as it was inhabited by white peoples.

Europe alone found courage to approach the Yellow Asia during the last four centuries. Portugal and Holland, for a long time, contented themselves with commercial settlements. Russia first appeared as the conqueror when, in the sixteenth century, she subjugated Siberia by the sword. England and France first followed this example in the seventeenth and eighteenth centuries. It is not until we pass into the nineteenth century that we witness the great warlike undertakings of the European Powers in Yellow Asia. Not until the twentieth century did Europe lay hands on the borders and the outworks of the Asiatic fortress. Holland contented herself with the Malay Islands, where she had small and mutually jealous native states, rendered weak by their divisions. Russia conquered the lowest and most undeveloped tribes of the Yellow family, the Toonguse, the Chookchi and other half-savages of Siberia, and, in our generation, the nomadic peoples of Central Asia. England and France have to do with the internally disorganized states of India and Indo-China, the most advanced outposts of the Yellow Race. The chief organizations of the Yellow Race are China and Japan. Europe, until this present war, has never ventured to pick a quarrel with Japan. Europe, in the nineteenth century, has come repeatedly into armed conflict with China, and has been able to wrench from her certain harbors, parts of the coast-line and frontier provinces. On the whole, however, her organism has been little affected by these local crises. And so long as China, with its immense extent of territory and its four hundred million inhabitants, remain unshaken, we cannot say that Europe

has brought Asia under its power, or that the White has overcome the Yellow man.

A decisive turn towards the great contest with the Yellow Race has just begun. But the undertaking, thus far, has made little progress and the anthropological question is without issue. Is our race destined to an exclusive rule over the globe? Will it displace the Yellow Race, reduce it to a condition of servitude, or will the conflict result in a humiliation? Will it hear the stern command, "Thus far and no farther"? Will it be forced to accord to the Yellow man equal rights, and share with him the possession of the earth? Will it be compelled to come to a halt on the frontiers of East Asia, after having brought all other continents into its power?

Whoever looks over the course of the world's history will feel, necessarily, a certain anxiety.

The superiority of the White Race over the Red and Black was never questioned. In North America the Red Race never raised itself above the first stage of economic development; above the primitive pursuits of hunting and fishing, and the rudimentary work of their home industries. In Central America the Red man had reached state organization and the professional specialization of industries, but was still in the stone and bronze period, when first attacked by the Whites. The Black man seems incapable of grasping collective tasks, and of submitting himself to the political discipline which they demand. He can construct neither states, nations, nor societies. He is an everlasting anarchist and individualist, and therefore the predestined prey of any organized invader.

Quite different are the relations of the White man to the Yellow man. The latter is no savage. He is not a barbarian, as is sometimes alleged in Europe. He was highly civilized when the White man was a tattooed cannibal. He boasts of old and important discoveries. He is accomplished in the arts and in science. He has strong social tendencies and a well coordinated state organization. By what right do we look with arrogance upon the Yellow man and regard ourselves as his superior?

We are not physically better than the Yellow man. The Japanese and the South Chinese are smaller than White men, but the North Chinese and the Manchurians are quite as tall or taller. We think ourselves handsomer, but only because we form our ideal of beauty from our own appearance. No dweller of our globe can decide whether an inhabitant of Mars, equally different from us and the Yellow man, would consider that we were the better looking.

We reproach the Yellow man with a lower morality and a tendency to lie. We thereby commit the gross mistake of comparing quantities of two different orders with one another. We measure the teachings of our wisest

and most virtuous minds as they are expressed in our noblest books against the men in flesh and blood in China. We compare the Bible, the ethics of Spinoza and the characters say, of George Eliot's novels with the concrete Chinese in the Yamen of a provincial chief town or in the coolie quarter of Canton. This is unjust and unreasonable. We must either compare ideal with ideal, abstraction with abstraction, or concrete with concrete, men with men. Then we will find that we cannot reproach the Yellow man. On the one hand the classical writings of China teach just as high morality, and as noble wisdom as do our best writings, and, on the other hand, the inhabitants of our slums are no better than the coolies, and our professional politician does not love truth more than does the lying mandarin. The Chinese, even of the lowest class, is well-bred, and their politeness has excited the aggressive hilarity of rough Europeans. His respect for law can be appreciated only by White people of the highest mental development. He loves and honors his parents, and is greatly attached to his family. He does not drink, and if he indulges in opium-smoking, we have no right to reproach him, as we have practically forced this vicarious vice upon him. He is an indefatigable, dextrous, conscientious worker, and an honest merchant. His word is as good as a writ, and Europeans prefer to deal with him rather than with many of those of their own kind whom they meet in the harbors and towns of the Far East. He is modest in his tastes and frugal almost to abstemiousness. Freedom from actual suffering is all that he requires to be happy. He has a great craving for knowledge of the kind that he appreciates, and nowhere is the teacher surrounded with such esteem as in China. Such is the moral aspect of the Chinese.

The hyperesthesia of our nervous system, the organic source of our eternal discontent and restlessness, is the sharp spur to all progress. We know much more than the Yellow man, and our knowledge has given us a great technical superiority over him. This does not necessarily prove that we are the better race. Superior impressionability of the nervous system undoubtedly imparts to life a richer tenor of enjoyment and suffering, with, however, an excess of suffering; but this is perhaps, in the long run, a biological disadvantage, and exposes us to greater danger and to earlier ruin than would a certain degree of bluntness. It cannot, therefore, be decided offhand whether the fittest would be the hyperesthetic or the anesthetic. It is, further, rash for us to deny to the Yellow Race a capacity equal to our own in natural science and the technical application of its doctrines, as they undoubtedly are our equals in pure speculation, in philosophy and ethics. The Japanese have already made remarkable discoveries in physiology and experimental pathology, and Professor Kitasato is spoken of with respect

by every European savant. The compulsion of outward circumstances may, perhaps, in the case of the Yellow man, replace the inward stimulus which incites the White man to scientific labors, and may bring about an emulation in investigation and experimentation, the result of which cannot be foreseen.

An eudæmonist may, from his philosophical standpoint, maintain that knowledge is not its own end, but that its aim is a better adaptation to circumstance, the amelioration of the conditions of life, and, in the last instance, the augmentation of the eudæmonistic sensations. Now, the Yellow man is undoubtedly more contented and, subjectively, more happy than the White man. Is this not a proof that his civilization, by roads different from ours, namely, the increase of happiness, reaches more rapidly and surely the real aim of all civilization, that it is, therefore, from an eudæmonistic standpoint, superior to ours.

The White man is fond of speaking of his right to subjugate the Colored man to his will. He bases this right on his higher culture. This is conscious or unconscious self-deception. The real and only root of his alleged right is not moral, but purely biological: he is the stronger. Has our alleged right to impose our will on the Yellow race even a biological justification? Are we, if not morally and intellectually the superior, at least the stronger? To this question history furnishes a reply that should make the White man stop to reflect.

Until the present period the White Race did not raise its hand against the Yellow Race, but on the contrary it had to assume the defensive, and in every collision between the two races the White Race was shamefully worsted. Let us pass over the prehistoric conflicts of which the Mahâbhârata gives account, and the struggle between the Semites and the Sumerians, for we do not know with any degree of certainty to what race Hanuman and his people in India and the Sumerians in South Babylon belonged. In historical times we know of the invasion of the Huns under Attila in the fifth century, the Magyars under Arpad in the ninth, the Mongolians under Batu Khan in the thirteenth, and the Turks from the fourteenth century onwards, and in each instance the Yellow man vanquished the White man. The Huns swept over the whole of Europe, and in France they almost reached the Atlantic Ocean. The Bulgarians, somewhat later, actually roamed as far as Bordeaux. The Huns went back to Asia of their own free will, because their primitive country was more attractive to them than the conquered and devastated Europe. The Bulgarians remained in the Balkan peninsula. The Magyars have maintained their position on the plains of the Danube and Theiss to the present day. The Mongolians forced their way as far as Silesia, and then, after a last victory

at Liegnitz, returned towards Russia, where many of them remained. The Turks became masters of the Byzantine Empire, and still rule a large part of it. When the Yellow Race set out to invade Europe they were not repulsed. They were a terror to us. They massacred, burned and robbed in Europe. Wherever they settled in Europe they successfully held their own, and the White race never could expel even a single group of the Yellow invaders from that part of the world which they regarded as particularly their own. The history of the collisions between the two races is entirely to the advantage of the Yellow Race. We may murmur "*Vestigia terrent.*" If the number of victories in the battlefield is to determine the superiority of one or other of the races, we have every reason to withhold our decision, if we do not at once admit pessimistically that the evidence is against us.

It is easy to see what has driven the Christian Powers to China. We must distinguish between the immediate and the real cause. The late Boxer movement, the attacks on the native Christians and the foreign missionaries, the siege of the Legations, were but pretexts on the part of the Europeans who desired to take possession of China. The White men no longer feel comfortable in their own countries. They have, thanks to the progress of their civilization, risen to a standard of life which their means no longer enable them to maintain.

Why does the open country become depopulated? Why does the population stream into the large towns, and leave stable and plough to surrender itself to the machine and the factory? Because the industry of small landed proprietors, limited by the density of the population of Europe, no longer furnishes the means to satisfy the material and intellectual necessities of life. The laborer who possesses only a small field between the 35th and 65th degree of latitude cannot, with the greatest effort and frugality, earn the means to buy wheat or rye bread and meat daily, to smoke tobacco and drink wine, beer or brandy, to live in a house containing several well-furnished rooms, to heat his house several months in the year and light it each evening with petroleum, to dress himself and family in clothes of good quality, read a newspaper, have a railway station near by, a free school for his children, and receive visits of the postman several times a day. These great and varied luxuries of civilization, the cost of which few people work out, cannot be paid by the small peasant. His field does not allow him to employ his working capacity to advantage, and he therefore deserts agriculture for industry. In the industrial field his labor is used to the best advantage. He earns the money that will gratify his natural and artificial wants as a civilized white man. Everything, therefore, tends towards industry. The population neglects the ungrateful production of raw mate-

rial, and will only create the better-paying industrial goods. There is, consequently, an over-production, and the national economy can be carried on only when the nation succeeds in disposing at a fair price of the mass of its commodities.

The market is in our time the great anxiety of all Governments, the aim of every statecraft. The fear of crises and of complete industrial bankruptcy spurs the national egoism to ferocity and overshadows the reasoning faculties of the responsible leaders of the nations. One country shuts itself up by a protective tariff against the other. Each one thinks only of selling as much as possible to his neighbor and of taking as little as possible from him. One White nation no longer resorts to arms to force upon another White nation its industrial products. But the White nations are destined to force their custom upon the Yellow Race. England captured the Indian market with the sword, and held it by the superiority of its industry. This superiority does not exist to-day. The moment is near when the other White Races will dispute this market with England. What will England do? Will she shut the competitors out of India by high tariffs, or suffer the loss of the market? The White Nations propose to manufacture goods and force a sale at arbitrary prices upon the Yellow man, and from this market thus brutally seized they will try to shut out competition.

This is the enchainment of cause and effect. The economic organization of the present day does not permit the White man to live as well as he would like. He desires to escape from his uneasiness. If he were alone in the world, he would make a great intellectual effort to discover the exact reason of his discomfort, and find a rational and lasting remedy. Since he is not alone in the world, and the Colored man is near him, or, to speak more exactly, the four hundred million Yellow men, the first thought that occurs to him is, "let us fall foul of the Yellow men. We are the stronger. We have therefore the right to subjugate him. He shall serve us. He shall give us money. He shall work for us, so that we can maintain the standard of life." This requires less brain effort than to discover a rational remedy, but it is not a happy thought. The method which Europe adopted to rid herself, at least for some time, of economic discomfort was a false one, because the premises were false.

The Powers, in their attack upon East Asia, presuppose that the White Race is superior to the Yellow Race, and has, on account of this superiority, the right to dictate laws according to its good pleasure. This superiority (in its broadest sense) has, however, not been established.

The people of East Asia need to purchase European and American industrial products, but in a very limited measure. It will perhaps be pos-

sible by peaceful means gradually to open this market to our wares. If we prefer to use force, these people will in future refuse more spitefully than ever to accept our wares.

The anthropological problem which lies at the root of the whole course of the world's history has not been solved. The White Race was stronger than the Red and the Black, and no one can say that it is stronger than the Yellow Race. It tries, prompted by the instinct of every species and every race, to obtain the exclusive rule over the globe. It must, however, accustom itself to the idea that the Yellow Race is its equal, that it will never be able to drive it aside, that it must share with it the mastery of the world, and that it will never add East Asia to its possessions. It is possible that Russia will succeed in establishing a kind of moral protectorate over China, and thereby acquire political and economic advantages. But this will be no victory of the White over the Yellow Race, for the Russians are a mixed people, whose Mongolian woof must not be left out of account. One can see in the tremendous preponderance which Russia has attained in the last century, not only in Asia but also in Europe, a victory of the Yellow Race over the White, and the beginning of the subjection of Europe by Asia.

The economic embarrassments of the White people cannot be cured in a zoological way; that is, by crushing the Yellow Race. They demand internal efforts on the part of the White Race; a more rational organization of society, and of the methods for the production and distribution of their industrial efforts.

PROBLEMS OF THE NEGRO

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THERE is no larger or graver problem before civilized men at this moment than the prompt formation of a sound public opinion about the right treatment of backward races; and Hampton possesses the key-words of that great problem—education and productive labor. The support of Hampton Institute depends directly on public opinion concerning it among intelligent and public-spirited people North and South. Let these people remain convinced that Hampton not only has been, but is and will be, an effective instrument for uplifting the two backward races it serves, and let this conviction be as firmly and broadly planted in the Southern mind as in the Northern, and the vigorous life of the Institute is assured. I therefore ask your attention to some of the resemblances and some of the differences between opinion at the North and opinion at the South concerning the Negro.

In the first place, Northern opinion and Southern opinion are identical with regard to keeping the two races pure—that is, without admixture of one with the other. The Northern whites hold this opinion quite as firmly as the Southern whites; and, inasmuch as the Negroes hold the same view, this supposed danger of mutual racial impairment ought not to have much influence on practical measures. Admixture of the two races, so far as it proceeds, will be, as it has been, chiefly the result of sexual vice on the part of white men; it will not be a widespread evil; and it will not be advocated as a policy or method by anybody worthy of consideration. It should be borne in on the mind of the Southern whites that their Northern brethren are entirely at one with them in this matter, in spite of certain obvious differences of behavior toward the Negro at the North and at the South.

Let us next consider some of these differences of practical behavior. At the North, it is common for Negro children to go to the public schools with white children; while at the South, Negro children are not admitted to white schools. This practice at the North may be justly described as socially insignificant; because the number of Negro children is in most places very small in proportion to the number of white children. In Northern towns where Negro children are proportionately numerous, there is just the same tendency and desire to separate them from the whites that there is in the South. This separation may be effected by public regulations; but if not, it will be effected by white parents procuring the transfer of their chil-

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dren to schools where Negroes are few. The differences of practice in this matter at the North and at the South are the result of the different proportion of Negroes to the white population in the two sections. Thus, in the high schools and colleges of the North, the proportion of Negroes is always extremely small, so small that it may be neglected as a social influence. Put the prosperous Northern whites into the Southern States, in immediate contact with millions of Negroes, and they would promptly establish separate schools for the colored population, whatever the necessary cost. Transfer the Southern whites to the North, where the Negroes form but an insignificant fraction of the population, and in a generation or two they would not care whether there were a few Negro children in the public schools or not, and would therefore avoid the expense of providing separate schools for the few colored children.

With regard to coming into personal contact with Negroes, the adverse feeling of the Northern whites is stronger than that of the Southern whites, who are accustomed to such contacts; but, on account of the fewness of the Negroes at the North, no separate provision is made for them in public conveyances and other places of public resort. It would be inconvenient and wasteful to provide separate conveyances; and, moreover, race is not the real determining consideration in regard to agreeableness of contact in a public conveyance or other public resort. Any clean and tidy person, of whatever race, is more welcome than any dirty person, be he white, black, or yellow. Here, again, the proportion of the Negro to the white population is a dominant consideration. On the whole, there is no essential difference between the feelings of the Northern whites and the Southern whites on this subject; but the uneducated Northern whites are less tolerant of the Negro than the Southern whites. More trades and occupations are actually open to Negroes in the Southern States than in the Northern.

I come next to a real difference between Northern opinion and Southern opinion—a difference the roots of which are rather hard to trace. At the North, nobody connects political equality—that is, the possession of the ballot and eligibility to public office—with social equality—that is, free social intercourse on equal terms in the people's homes. At the South, the white population seems to think unanimously that there is a close connection between the two questions following—shall a Negro vote or be a letter-carrier? And shall he sit with a white man at dinner or marry a white man's sister? At the North, these two questions seem to have nothing whatever to do with each other. For generations the entire male population of suitable age has possessed the ballot; but the possession of the ballot has never had anything to do with the social status of the individual voter. In the Northern cities, which generally contain a great variety of white nationalities, the social divi-

sions are numerous and deep; and the mere practice of political equality gives no means whatever of passing from one social set to another supposed to be higher. The social sets are determined by like education, parity of income, and similarity of occupation, and not at all by the equality of every citizen before the law. Many an old New England village, and many a huge tenement house in a great city at the North, illustrate the sharpness and fixity of social distinctions much more strongly than the newest fashionable quarter. The male villagers call each other John and Bill when they meet on the road or at town-meeting; but their families hold themselves apart. In the tenement house families will live for years on the same staircase, and yet never exchange so much as a nod. In democratic society, it is only birds of a feather that flock together; and true social mobility in a democracy is not preserved by the ballot, or by any theory of the equality of all men before the law, but by public education and by the precious freedom which enables the men and women who possess remarkable natural gifts of any sort to develop and utilize those gifts. This democratic mobility is an application of the general principle that human beings of the same sort, possessing the same desires, and governed by the same motives, will seek each other out, and associate in the pursuit of common objects, whether at work or at play. At the North, then, people do not in the least connect political equality with social equality or intercourse. In this respect, the Northern people closely resemble the English and the nations of continental Europe that have introduced the ballot into their political structures. No European has ever associated the possession of the ballot with social equality. An Englishman would find such an idea utterly unintelligible. During the nineteenth century there have been successive extensions of the suffrage in England; but these extensions have not affected in the least the social classification of the English people. To the Northern mind there is something positively comical in the notion that a letter-carrier, or a fourth-class postmaster, or an alderman, changes his social status or his social prospects when he attains to his office. At the North, this man remains in the social position to which his education, business training, and social faculties entitle him. His fellow-citizens may form a new opinion about him from the way he does his work, and from his bearing and manners; but if his social status is altered in any way, it will be because his personal qualities give him a lift or a drop, and not because he holds an office by election or appointment. At the South, on the other hand, the possession of the ballot before the Civil War distinguished the poor white from the black slave; and to hold public office was a highly valued mark of distinction among whites. Hence, the Southern whites are now convinced that possession of the ballot and eligibility to public office, however humble, tend towards social equality between two races

which ought not to be mixed; while nothing in the long experience of freedom among the Northern whites has ever suggested to them that there is any connection between social intercourse and political equality. The Southern white sees a race danger in eating at the same table with a Negro; he sees in being either the host or the guest of a Negro an act of race infidelity. The Northern white sees nothing of the kind. The race danger does not enter into his thoughts at all; he does not believe there is any such danger. To be the host or guest of a Negro, a Mexican, or a Japanese, would be for him simply a matter of present pleasure, convenience, or courtesy. It would never occur to him that such an act could possibly harm his own race. His pride of race does not permit him to entertain such an idea. This is a significant difference between Northern whites and Southern whites. Their sentiments on this subject are really unlike—so unlike that they do not understand each other. Yet their fundamental belief that the two races ought to live socially apart is precisely the same. The Southern sentiment on this subject ought to be provisionally respected as a social fact; although the Northern white's race feeling seems to be really much more robust than that of the Southern white's. The Northerner's is simply impregnable, like the self-respect of a gentleman. If the Southerner, when in the North, could conform to Northern practice, and the Northerner, when in the South, to Southern practice, each without losing caste at home, an amiable *modus vivendi* would be secured.

Again, the Northern whites and the Southern do not entirely agree with regard to public education. Northern opinion is unanimous in favor of giving the whole Southern population, white and black alike, good opportunities for education in every grade, though in separate establishments. It seems to the Northern whites that, if the Southern Negroes are to constitute a separate community, separate, that is, with regard to church, school and all social life, that separate community will need not only industrious laborers and operatives, active clerks, and good mechanics, but also teachers, preachers, lawyers, physicians, engineers, and, indeed, professional men of all sorts; and therefore that all grades of education should be made accessible to Negro children and youth. On this subject three different opinions may be discerned among Southern whites. Some Southern whites, educated and uneducated, think that any education is an injury to the Negro race, and that the Negro should continue to multiply in the Southern States with access only to the lowest forms of labor, for which, they maintain, as Plato did, that no education is necessary. Another section of the Southern whites holds that Negro children should be educated, but only for manual occupations; that is, for farm work, household work, and work in the fundamental trades, such as the carpenter's, mason's, and blacksmith's. This section ap-

proves of manual training and trade schools, but takes no interest in the higher education of the Negro. Still a third section of the Southern whites recognizes the obvious fact that a separate Negro community must be provided with Negro professional men of good quality, else neither the physical nor the moral welfare of the Negro population will be thoroughly provided for. At the North, the higher education of the few young Negroes who will reach that grade can be provided in the colleges and professional schools maintained for white youth, and is successfully given at this moment to a few Negro youth. In the Southern States, the higher education must be given in separate institutions, if at all.

The Northern people hardly realize how heavy the educational burden on the Southern States really is; because, at the North, they are under no necessity of providing separate institutions of all grades for the Negroes in addition to those provided for the whites. The pecuniary burden of this separate provision on the relatively poor Southern States is enormous; it is heavy in the elementary schools, but in the higher grades of education it is heavier still in proportion to the numbers to be educated. The provision of a higher education for Negroes is the logical consequence of the proposition that the white and black races should both be kept pure; and as I have said, this proposition is accepted both at the North and at the South. The alternative view that the Negro needs no education, or is harmed by it, or that the race should only be offered the lower grades of education, is thoroughly inconsistent with the proposition that the two races should be kept unmixed. Democratic society cannot possibly contemplate the permanent presence of millions of a race but recently delivered from slavery, breeding fast, and left in ignorance, or even without guidance and incentives to intellectual and spiritual life. Such a suggestion flies in the face of all democratic thought about public justice, liberty, and even safety.

The Northern whites have precisely the same dread of an ignorant and corruptible suffrage that the Southern whites feel; for they have suffered and are now suffering from it. Millions of immigrants, who have had no practice in civil or religious liberty, have invaded the North; and Negro suffrage there has often proved not only unintelligent, but mercenary. Their remedy, however, for an ignorant suffrage is to abolish ignorance by patient, generous work on the children. As an aid in this long campaign they value an educational qualification for the suffrage. Moreover, the Northern people are having at home abundant illustration of the way crimes increase when portions of the population have emancipated themselves from accustomed restraints, but have not yet been provided with any new effective restraints either from within or from without. In this respect they are prepared to sympathize warmly with their Southern brethren, whose situation

is even more difficult than their own. Both parts of the country are feeling acutely the same need—the need of a stronger arm for the law, of a permanent, large, and pervasive police force, organized in military fashion, and provided with all the best means for instantaneous communication between stations. The presence of a competent public force would tend to prevent those sudden gregarious panics which cause lawless barbarities.

In respect to the value of that peculiar form of education which Hampton Institute has so admirably illustrated—education through manual training and labor at trades and crafts—there is a striking agreement between Northern and Southern opinion. One of the most remarkable changes in public education in the Northern States during the past fifteen years has been the rapid introduction of just these features into urban school systems.

The Northern whites are beginning to sympathize strongly with their Southern brethren in respect to the peculiar burden which the action of the National Government in liberating the Negroes has imposed on them. They see that the educational problem at the South is much more difficult than it is at the North, and calls for much greater public expenditures. They also perceive that the Southern States are less able than the Northern States to make large public expenditures for education. In spite of their ingrained preference for local government in general—a preference which has preserved far too long ward government for schools in cities and district government in country towns—they are beginning to feel that the peculiar burden on the Southern States, caused by the separation between the black and the white races in the institutions of education, should be borne in part by the National Government. They would like to see devised constitutional means of bringing exceptional aid from the national treasury to the former States which have this exceptional burden to bear. They would like to see the Negro schools of the South kept eight months of the year instead of four, at the expense of the nation. They would like to see separate Negro colleges for agriculture and the mechanic arts provided throughout the South by the National Government. They would like to see the Southern universities enabled to maintain separate professional schools for colored men. They would like to see a way found for the National Government to spend as much money on solving the Southern Negro problem as it has been spending for six years past on the Philippine problem. In short, they would like to see the National Government recognize its responsibility for many of the physical and moral difficulties which beset civilization in the Southern States, and come to the aid of all the civilizing forces in those States. They know that efficient help could only be given through existing local agencies; and the only help they would wish the Government to give is help to meet the peculiar burdens those agencies now have to bear because

of the expedient social separation between the two races which are to occupy together the fair Southern country. It was in the supreme interest of the whole nation that the Southern States were impoverished forty years ago by a four years' blockade and the destruction of their whole industrial system. It is fair that the nation should help to rebuild Southern prosperity in the very best way, namely, through education.

Finally, let us all remember that the task of making competent freemen out of slaves is not the work of a day or a decade, but of many generations. How many Anglo-Saxon generations have gone to dust on the long road from serfdom to freedom! It is a task to be worked at by each successive generation, with the eager energy of men who know that for them the night cometh in which no man can work, but with a patience like that of God who lives and rules forever.

THE ROMAN CAMPAGNA

SIR ARCHIBALD GEIKIE
LONDON

AMONG the capitals of Europe Rome has long had the unique distinction of standing in the midst of a wide solitude. Other cities in their outward growth have incorporated village after village and hamlet after hamlet. As their streets and squares merge insensibly into a succession of villas and gardens, cottages and hedgerows, followed by the farms and fields of the open country, so the noise and stir of causeway and pavement gradually give way to the quieter sounds of rural life. But with the Eternal City this normal arrangement does not hold good. For sixteen centuries she has kept herself within her ancient walls which still surround her with their picturesque continuity of rampart and tower. Inside these barriers we still encounter, by day and by night, the " fumum et opes, strepitumque Romæ." But outside the gates we find ourselves on a lonely prairie that sweeps in endless grassy, and almost treeless, undulations up to the base of the distant hills. The main roads, indeed, that radiate from the city, are bordered on either side, for the first mile or two, with a strip of suburban *osterie,* booths and shops, varied here and there, perhaps, by a villa and its grounds. But these fringes of habitation are too narrow and short, and cling too closely to their respective arteries of traffic, seriously to affect the solitariness which broods over the intervening landscape to the very foot of the walls.

This surrounding district, known as the Roman Campagna, possesses a singular fascination, which has been often and enthusiastically described. The endless and exquisite variety of form and color presented by the plain and its boundary of distant mountains, together with the changing effects of weather and season on such a groundwork, would of themselves furnish ample subjects for admiration. But the influence of this natural beauty is vastly enhanced by the strange and solemn loneliness of a scene which living man seems to have almost utterly forsaken, leaving behind him only memories of a storied past which are awakened at every turn by roofless walls of long-abandoned farm-buildings, mouldering ruins of mediæval towers, fragments of imperial aqueducts, decayed substructures of ancient villas and the grass-grown sites of ancient cities whose names are forever linked with the early struggles of Rome. European travel offers few more instructive experiences than may be gained by wandering at will over that rolling sward, carpeted with spring-flowers, but silent save for the song of the larks overhead and the rustle of the breeze among the weeds below; when the mountainous wall of the Sabine chain from Soracte 'round to the Alban Hills

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gleams under the soft Italian sky with the iridescence of an opal, and when the imagination, attuned to the human association of the landscape, recalls with eager interest, some of the incidents in the marvellous succession of historical events that have been transacted here. If, besides being keenly alive to all the ordinary sources of attraction, the visitor can look below the surface, he may gain a vast increase to his interest in the ground by finding there intelligible memorials of prehistoric scenes, and learning from them by what slow steps the platform was framed on which Rome rose and flourished and fell. He will thus discover that, as befitted the city which was to rule the world, its birthplace was fashioned by the co-operation of the grandest forces in Nature; that, on the one hand, subterranean upheaval and stupendous volcanic activity combined to build up the plain and hills of the Campagna, and that on the other, the universal and ceaseless working of the subaërial agencies has carved it into that varied topography which is typified in the isolation of the Seven Hills of Rome and of the many crags and ridges that served as sites for the towns of Latium and Etruria.

Seen from the crest of the Vatican ridge, the Roman Campagna stretches as a plain from the base of the steep front of the Apennines to the coast of the Mediterranean—a distance of some thirty English miles. To the north it is bounded by the ridge of Soracte and the nearer heights of Bracciano and Tolfa. To the south it runs up to the base of the Alban Hills and sweeps between them and the sea onwards till it merges into the flat and pestilential Maremma. Even from such a commanding point of view, however, this apparent plain can be seen to be far from having an even surface. Not only does it slope upward and inland from the coast until, where it abuts against the foot of the hills, it has reached heights of 600 or 800 feet, but when looked at more closely it presents a somewhat diversified topography. Though the heights and hollows never vary much from the general average level, they include not only smooth, grassy ridges but also low cliffs that run along the declivities, rising sometimes into craggy scarps; likewise narrow gullies and ravines with steep walls, as well as wide, open, smooth-sided valleys. The surface is for the most part clothed with pasture; yet the brown and yellow rock that forms most of the plain protrudes in many places, not only where it has been laid bare by natural causes, but where it has been artificially cut away or scooped into subterranean recesses.

Such a varied form of ground was eminently favorable for human settlement. The earliest races could find or make rock-shelters almost anywhere. The fertility of the soil afforded to their successors good pasturage and fields for tillage, while the hillocks, girt round with cliffs, and the flat-topped ridges, shelving precipitously to lower ground, offered excellent sites for fortification and defence. Owing to the porous nature of the ground,

much of the rain sinks at once beneath the surface, instead of flowing off in brooks. Hence many of the valleys are usually dry, unless in wet seasons. But water can be obtained all over the district by sinking wells, and that this source of supply has been in use from a remote period and to an almost incredible extent, has been strikingly shown by the recent excavations beneath the pavements of the Roman Forum. It would be difficult to find anywhere a form of ground which shows better the influence of geological structure upon the early fortunes of a people.

With some portion of what has been written by Italian and other observers on this district, I have made myself acquainted, and having had the advantage of tracing on the ground the records of the successive stages through which the Campagna has come to be what it is, I propose in the following pages to give an outline of this prehistoric chronicle. I should like to attempt to present to the reader such a picture of the whole sequence of events as has vividly impressed itself on my own mind, avoiding, as far as may be practicable, technicalities and details. Three distinct successive phases can be recognized in this sequence. First came a time when the waves of the Mediterranean broke against the base of the steep front of the Apennines, and when all the low grounds around Rome, and for leagues to the north and south, lay sunk many fathoms deep. Next followed the chief period in the building up of the Campagna. A host of volcanoes rose along the sea-floor on the west side of Central Italy, when ashes, dust and stones were thrown out in such quantity and for so prolonged a time as to strew over the sea-bottom a mass of material several hundred feet thick. Partly from this accumulation and partly by an upheaval of the whole region of Italy, the sea-bottom with its volcanic cones was raised up as a strip of low land bordering the high grounds of the interior, and huge volcanoes were piled up to a height of several thousand feet. Lastly succeeded the epoch in which the volcanic platform, no longer increased by fresh eruptions, was carved by the atmospheric agencies into the topography which it presents to-day. Each of these three phases has had its history legibly graven in the rocky framework of the Campagna, and some of its memorials may be recognized even within the walls of Rome.

I. The records of the first period lie beneath the Seven Hills on the left bank of the Tiber, but rise high above the plain on the right bank, where they form the chain of heights that culminates in Monte Mario, 455 feet above the level of the Mediterranean. These records, forming the series known to geologists by the name of Pliocene, consist of a lower bluish-grey clay and an upper group of yellow sands and gravels, the whole being probably a good deal more than 450 feet thick. The clay (Plaisancian) has been found to extend, with a remarkable persistence of aspect and con-

tents, from the north to the south of Italy. It has yielded several hundred species of mollusks and other organisms which show it to be a thoroughly marine silt, deposited on the bottom of a sea of some little depth.

At the time of the deposition of this clay the mountainous backbone of the country had already undergone the greater part of that prolonged series of terrestrial disturbances whereby solid sheets of limestone were folded, crushed, ruptured and driven together into a series of parallel ridges, having a general trend from northwest to southeast, and forming the nucleus of what is now the chain of the Apennines. At the epoch when our story begins, however, this chain was still incomplete, and probably a good deal lower, as well as narrower, than subsequent upheaval has made it. Instead of forming, as it now does, the lofty axis of a broad peninsula, it then consisted of a series of parallel islands and islets, separated from each other by long and often narrow sounds or channels. In general appearance it must have resembled parts of the coast of Dalmatia on the opposite side of the Adriatic. Many of the more prominent mountains of the region stood then entirely surrounded by the sea. The Sabine Hills, for example, rose as an island, while Soracte formed another island farther west. A long strait ran northwards by Rocca Sinibalda and Rieti to Terni; another of narrower width stretched towards Perugia and formed then the estuary of the Tiber. All the Roman Campagna, together with the low grounds on both sides of the Apennines, was at that time submerged under the sea. The great band of volcanic heights and cones that extends from Aquapendente to the Bay of Naples had not yet come into existence, but over their site the waters of the Mediterranean lay many fathoms deep.

The climate of Europe had for ages been of so genial a character that sub-tropical types of life had long flourished both in the sea and on the land of this quarter of the globe. But in the period of geological history with which we are now concerned, a remarkable diminution of temperature was in progress all over the Northern hemisphere. As the warmth grew less, the distribution of plants and animals came to be seriously affected. Many southern forms were extirpated from districts which they had long inhabited, while in their place came migrations of northern species. This modification made itself felt both on sea and land. Thus in the Atlantic Ocean a number of northern shells, which had pushed their way southward even as far as the coasts of the Spanish peninsula, were able to enter the Mediterranean when a connection was opened betwen that inland sea and the main ocean outside. It is interesting to note that among the shells introduced into the Mediterranean basin at this time were *Astarte borealis, Buccinum groenlandicum, Cyprina islandica, Panopaea norvegica* and others whose appellations sufficiently indicate the latitudes where they now find

their chief home. On the land, too, such quadrupeds as the reindeer and the now extinct mammoth wandered from the plains of Lapland and Russia to the shores of Italy. Eventually when the refrigeration gave way to the return of more genial conditions, the northern invaders died out. They have no living descendants now in the south of Europe.

The grey clay which forms the lower division of the Roman Pliocene series is best seen on the right side of the Tiber where it forms the lower half of the ridge of the Vatican and Monte Mario, and where for more than five-and-twenty centuries it has supplied material for making the bricks of which ancient and modern Rome has been so largely constructed. The same clay has been found at lower levels on the opposite side of the river. On the flanks of the Pincian Hill, at the Piazza di Spagna, it was exposed about twelve years ago in some excavations connected with the adjustment of the aqueduct of the Aqua Vergine. Only a few feet below the crowded pavements of that busy thoroughfare lies the old sea-bottom with its abundant relics of marine life. In borings for water which have been made around Rome the same deposit has been ascertained to extend below the later volcanic formations of the Campagna. Thus at the Appia Antica fort, near the tomb of Cecilia Metella, the clay was entered at a depth of about 300 feet from the surface or eighty feet below the level of the sea. As the upper limit of the clay at Monte Mario lies about 200 feet above sea-level and the distance from that outcrop to the fort in question is about six miles, it might be inferred that there is here evidence of a southeasterly dip of the deposit amounting to forty-six feet in a mile. But before any inference of this kind can be accepted, some considerations should be taken into account of the highest interest and importance in relation to the early history both of the Campagna and of the Apennine chain.

Before dealing with these questions, however, let us complete the examination of the marine deposits of Monte Mario. In the valuable section disclosed on the slopes of that hill, the grey clay is seen to become sandy towards the top and to include seams of sand which rapidly increase in thickness, until, with their included layers of gravel, they form nearly the whole of the upper part of the ridge. These yellow sands, generally distinguished by the name of "Astian," have been traced, like the clay below them, along nearly the whole length of the Italian peninsula. The striking contrast which, in the nature of their material, they present to the clay, plainly points to a great alteration of the geography of the coasts at the time when they were deposited. The sea must have become rapidly shallower. Not improbably one of the uplifts now took place, whereby the land has been raised at intervals to its present height. The steepness of the descent of the mountains into the sea might not lead at once to much gain of land along

the western coast; but instead of the grey mud that had previously accumulated in the deeper water, coarser sediment, brought down by numerous torrents from the hills, now spread out over the sea-bottom. Such a transition from the finest silt to gravel and sand could not fail to affect the distribution of the animals living along the coast-line. Accordingly, on comparing the fossils in the sands with those of the clay, we see that while some of the shells, especially the larger and more massive kinds, continued to flourish in abundance; others, which found their most congenial haunts in tranquil waters, were driven further out to sea.

As the Pliocene deposits so well displayed at Rome are known to preserve throughout Italy the same twofold character, with the same types of sediment and of organic remains, the observer who tries to follow their development in the Campagna is soon puzzled by the way in which they there suddenly disappear and allow their place to be taken by later deposits of volcanic origin, which are known by the general designation of Tuff. The most astonishing example of this local peculiarity is to be found at the Monte Verde, south of the Janiculan ridge. The clays and sands which rise in horizontal layers almost to the top of Monte Mario are there entirely cut out, and the tuff, which lies as a mere thin capping on the crest of that hill, suddenly descends across the truncated edges of the Pliocene strata to the alluvial plain of the Tiber. On the opposite side of the river, the upper sands have been almost entirely removed and the tuff is found lying almost immediately on the lower clay. It is clear that there must have been an extensive, though no doubt local, erosion of these marine strata, before the main body of the tuff was laid down. By what agency this erosion was effected is not quite clear. Not improbably a gap occurs here in the record, representing an interval of considerable duration of which no chronicle has survived.

Passing over this hiatus, we still encounter marine deposits, but these are of volcanic origin, and leave us meanwhile to speculate in the dark as to whether the denudation was the work of the sea or of terrestrial waters. Owing to the thick covering of tuff which has overspread the Campagna and concealed all that lies below, it has become difficult to obtain adequate data for the discussion of this question, which is of considerable interest in the history of the Campagna. The most reliable evidence would be supplied by a series of borings across the district in different directions. Such a series may perhaps hereafter be undertaken for the purpose of obtaining water for the farms and homesteads, which sanguine patriots foresee taking in the future the place of the present solitude, and in that event, the geologists of Rome will no doubt be on the watch for all the information that

can be gathered from this source as to the nature of the rocks underneath, and their relations to each other.

In the meantime, much might be done in this attractive department of local geology by a far more detailed study than has yet been attempted of the surroundings of the Campagna. In particular the recognizable stratigraphical horizons among the Pliocene strata should be definitely traced and mapped in detail, where they emerge from under the volcanic tuff. It would then be possible to measure the amount of erosion in various places, and to determine how far the spread of the volcanic sheet across older formations is due to actual unconformability and how far to simple overlap. At the same time, the precise height could be ascertained of the upper limit of the Pliocene deposits, and data would probably be obtained for determining not only the minimum amount of the uplift of the land since the Pliocene period, but also how far and in what directions there may have been any warping of the peninsula in the course of the elevation. We know from the observations of De Angelis that the Plaisancian clays, which at Monte Mario do not rise more than 200 feet above the surface of the Mediterranean, reach a height of as much as 1050 metres (3445 feet) in the upper part of the valley of the Arno, near Subiaco, only about thirty miles east from Rome, or an upheaval of as much as 108 feet in a mile. It remains still to discover how far this amount may fall short of the total extent of the post-Pliocene uplift of the Apennine chain.

Not improbably the deep and extensive erosion of the Pliocene formations before the deposition of the volcanic tuffs, and their elevation above sea-level were related phenomena, connected with the outbreak of the remarkable volcanic episode in the geological history of Central Italy, which has so profoundly modified the scenery of the country. In the yellow sands and gravels of Monte Mario no trace of volcanic detritus has been detected. Their sediments, containing pebbles of Rhaetic, Jurassic and Cretaceous rocks can hardly have come from any other source than the Apennine chain. But before their deposition had quite come to an end the Volcanic period was ushered in which forms the second stage of the history of the region.

II. We have now to deal with the records of one of the most interesting phases in the evolution of the framework of Italy—the period that witnessed the birth, development and extinction of a series of volcanoes which, starting on the sea-bottom in front of the western coast, gradually built up a tract of plains and hills in some places thirty to forty miles broad and altogether perhaps as much as 200 miles long, crowned with majestic cones several thousand feet high. The chronicles of this episode being tolerably complete in the Roman Campagna, they enable us to follow the course of events with great clearness from the beginning to the end.

Nowhere in the district around Rome have the earliest indications of the oncoming of this volcanic period, the first mutterings, as it were, of the subterranean convulsions, been more instructively preserved than in the line of quarries that have been opened along the edge of the alluvial plain of the Tiber at the Torretta di Quinto, near the Ponte Molle, about two miles north from the city. The section of strata there exposed, which has long been known and often described, is at present undergoing rapid changes from the extensive excavations required to procure materials for the embankment of the river in its course through Rome. Nowhere, too, is the geologist more seductively wooed from the pursuit of his researches by the fascination of crowded historic associations. From the slopes above the quarries, he sees the Tiber catching the shadows of the Pons Milvius, where Maxentius met his doom. Below him rise the roofs of the *Osterie,* which on feast days repeat the noise and merriment that made the place notorious in the days of the Empire. Opposite him, a green hill marks the long-deserted site of Antemnæ, beneath which the Tiber winds as a silver band through its meadows far up past other old towns that have long since mouldered into dust. Looking across the green and purple expanse of the Campagna, dotted with its ruined towers, he sees the whole sweep of the blue rampart of the Sabine Hills—almost the only feature of the landscape that has remained the same. If from these memories of the past he turns to the long line of quarries, he is perchance rudely awakened to the strenuous present by gangs of workmen, digging, blasting, wheeling; by the rattle of laden wagons, and by an occasional explosion of gunpowder or dynamite. Passing through this busy scene, he soon perceives that the ancient bank against which the Tiber chafed when it was spreading out its high alluvial plain, has been quarried backward, and as the ground slopes upward from the plain, the cliff thus artificially cut open must be continually changing its face and becoming higher. At present there has been laid open an excellent section of strata forming part of the upper or sandy group of Monte Mario. These succeed each other in horizontal bands so diverse in form and color as to give the cliff a markedly banded aspect.

At the southern end of this section some layers of coarse gravel may be seen cemented into a solid calcareous conglomerate full of large and well-preserved marine shells. A little further over comes a band of travertine—a compact variety of limestone which is one of the characteristic and economically important stones of the Campagna, for where of good quality, it makes an admirable firm cream-colored building-stone, and has been largely used from the early times of Roman history. To its durability the preservation of so many noble monuments of Republican and Imperial architecture is due. I may remark in passing that this material can now be

seen in actual course of deposition from solution in the neighborhood of Rome. The cold waters of the Anio have formed thick masses of it at the Tivoli Falls, and the warm springs of Bagni deposit it on the plain below. At the latter place its accumulation must have been going on for a vast period of time, seeing that it now covers a tract of low ground to the north of the Anio, measuring about six miles from east to west and four miles from north to south. Here the quarries of ancient Rome were opened, and the modern city still draws its supplies from the same area. A smaller tract of similar stone has been worked for building material at Cisterna di Roma, about twenty-eight miles to the southeast of the city. A thin band of travertine, possibly a continuation of that at the Torreta di Quinto, forms a conspicuous cliff along the east side of the Via Flaminia, between Ponte Molle and the Porto del Popolo, and other detached masses of it make their appearance at various places further south.

These various outcrops of travertine, as I shall have occasion to show, have had an important influence in the excavation of the valley of the Tiber and the isolation of the hills of Rome. The material was probably deposited chiefly by hot springs containing abundant carbonate of lime in solution, and may be regarded as an accompaniment or sequel of volcanic activity. In most cases, thermal mineral springs depositing travertine make their appearance in the latter phases of a volcanic period, and often continue long after every other manifestation of subterranean heat has died out. But at the Torretta di Quinto the sheet of travertine is found among the records of the beginning of the volcanic history. Another exceptional feature in this sheet is the proof that it was laid down on the floor of the sea, for it encloses the remains of some of the shells that lived at the time in that sea.

More direct and obvious proof of the breaking-out of volcanic eruptions is to be found in the strata that lie above the travertine. In some of these may be detected truly volcanic minerals such as felspar, augite and black mica, derived from the explosion of lava within eruptive vents and the falling of the volcanic dust upon the silt and shells of the sea-bottom. Higher up more pronounced evidence of successive eruptions is furnished by abundant lapilli and scoriæ of black slaggy lava, and by bands of true tuff, composed almost or entirely of volcanic detritus.

This section at the Torretta di Quinto is of great interest as indicating that the volcanoes of the Campagna began their career under the sea. Similar evidence obtained at other places makes it probable that the whole chain of volcanoes in central and southern Italy from those of Bolsena on the north to those of Naples and Sicily on the south started their eruptions on the sea-floor. When the activity of this chain was at its height a band of eruptive vents flanked the western coast from the neighborhood of Aqua-

pendente and Ovieto to perhaps as far as the Bay of Salerno. At first the cones formed round these vents were probably submerged, and were no doubt more or less washed down and leveled by the agitation of the sea, but as they were renewed by successive discharges, the larger examples among them may have risen above water and scattered their dust and stones into the air. These volcanic islets would then front the mainland of Italy, much as the Aeolian islands now flank the northern coast of Sicily. Etna, Lipari, Volcano, Stromboli and the other islets may be regarded as the last lineal descendants of the insular volcanoes to whose operations the scenery of Central and Southern Italy is so largely indebted.

The solid substances ejected by these volcanoes in the earlier stages of their history consisted mainly of fragmentary material—dust, sand, stones, scoriæ, and the other forms in which molten lava is blown out of volcanic vents by the explosion of its absorbed vapors and gases. Sometimes pieces of limestone or other rock, which were torn away from the older formations underneath, are found dispersed through the volcanic detritus. This fragmentary material, now more or less compacted into the form of Tuff, extends throughout the length and breadth of the volcanic tract and must thus cover some thousands of square miles. In the Campagna, which lies upon it and derives thence its distinctive features, it reaches a thickness of 300 feet or more, while inland it overlaps the Pliocene deposits in detached outliers which run far up the Apennine Valleys, reaching heights of 1200 feet and upward. Compared with the Pliocene strata that lie below it, the tuff presents some characteristic differences which at once arrest attention. It lacks the rapid alternation and variety of parallel layers so marked in the Astian sands. Yet it can generally be seen to possess a stratified arrangement. Here and there, indeed, this structure gives place to a tumultuous accumulation of coarse detritus, huddled together as it fell, large and small lumps of lava being confusedly mingled in the general matrix and forming the rock known to geologists as Agglomerate. Such intercalations probably indicate proximity to centres of eruption and in some cases may even mark the position of the vents themselves. Alternations in the character of the successive beds of tuff may be regarded as evidence of variations in the energy and distribution of the active orifices. It may be added that the tuff supplied the Romans with various admirable building materials. In the days of the Kings and of the Republic, its more compact kinds were quarried in large quadrangular blocks for the construction of massive walls, while in later times some of its more incoherent varieties were discovered to be capable of forming the most durable concrete, which in the hands of Roman architects was employed with a boldness and skill that have never since been equalled.

That the materials of the tuff were assorted under water is suggested by their stratified structure. This inference is strengthened by the intercalation among them of sheets of sand, gravel, clay and marl. The layers of gravel are especially important, for their component pebbles of limestone and other non-volcanic stones are unmistakably fragments of Mesozoic rocks, which have been rolled along by running water from their original resting places among the Apennines so as to acquire smoothed and rounded forms. But though the tuff was accumulated under water, it presents a strong contrast to the clays and sands below it by its generally unfossiliferous character. Leaves, branches and stems of ilex, oak and other land-vegetation have been obtained from it at various places, sometimes as mere hollow moulds or in carbonized forms, but occasionally with the internal structure still preserved. Less frequently it has yielded the bones, antlers or tusks of terrestrial quadrupeds. But both the plants and animals have obviously been drifted from the land, and did not live where their remains have been found. It is worthy of remark that though so many observers have been at work in successive generations among the rocks of the Campagna, no undoubted example of marine mollusk has been recorded from the tuff in the interior of the Campagna. The crowds of shells in the Pliocene strata underneath are there absent. That the conditions required for the existence of an abundant marine fauna continued over this site until the beginning of the volcanic period is manifest from the crowded pteropods, lamellibranchs and gasteropods of the clays and sands. But as the eruptions increased in area and in intensity these conditions were eventually destroyed. The descent of continued showers of hot dust, ashes and stones over the sea-bottom, the rise of mephitic gases from below, as well as of hot springs that deposited sheets of travertine, must have made that sea-floor no congenial home for either plant or animal.

It has often been assumed that the tuff of the Roman Campagna was derived from the eruptions of the Alban volcano on the one side, and of the Bracciano volcano on the other. A careful study of the tuff, however, and a comparison of it with that of more ancient volcanic districts, the structure of which has been more fully laid open by prolonged denudation, leads, in my opinion, to a conviction that this assumption is founded on inaccurate observation. The rapidly varying and lenticular character of the materials when followed along the cliffs where they are exposed, and their occasional agglomeratic character which increases and diminishes in various directions, with no reference to the two great volcanic centres on each border of the district, point not to showers of detritus from these centres, or from any other vents at a distance, but to local eruptions from many and generally small vents, discharging here fine, there coarse materials, at different times

and independent of each other. I have not myself been fortunate enough to detect a "neck," which would mark the site of one of these vents, nor so far as I am aware, has any example of this structure been recorded from the general body of the Campagna tuff. But this failure of proof, I am disposed to believe, is to be accounted for rather from the special kind of evidence required not having hitherto been recognized or searched for with sufficient experience, than because it does not exist.

One of the tasks which I think might hopefully be undertaken in regard to the geological history of this district is that of seeking for proofs of the distribution of some of the vents whence the tuff was ejected. Among the numerous crags along the hillsides, and in the abundant stream-courses of *fossi,* where the naked rock has been laid bare all over the Campagna, sections might be met with that would help to solve this problem. The numerous unquestionable "craters" of the Alban and Ciminian Hills belong to a much later stage of the volcanic period than that in which the main mass of tuff was formed. We must remember also, in considering this question, that the tuff, with its distinctive and persistent characters, stretches far beyond the limits within which the materials fell that were discharged from the Alban or Bracciano volcanoes, even when these were at the height of their vigor. It can be followed in numerous detached tracts of valley-floor through the hills eastwards to Sora, and southwards to near Gaeta. There is reason to believe, indeed, that the type of small submarine vents extended all through the volcanic tract from its northern to its southern limit.

A little reflection will show that the sites of these vents may be expected to be difficult of detection. In the first place, though numerous, their small size may easily make them escape notice, even where they may have been wholly or partially laid bare by denudation. Probably a close parallel to their original forms and to the way in which they were in some places crowded together is to be found in the Phlegræan Fields near Naples—a district which well deserves the careful scrutiny of any one who desires to follow the volcanic history of the Roman Campagna. Its cones are terrestrial, indeed, not submarine. Being much younger, they have been far better preserved than those of the submarine stage of the period. One of them, Monte Nuovo, though now as cold and silent as the oldest of them, was thrown up so recently as 1538. Another, that of the Solfatara, is still a steaming vent, while Vesuvius from time to time asserts its claim to rank in the list of active volcanoes. These Neapolitan cones probably convey a fair idea of the general distribution and aspect of those of the Campagna, especially in the later time when the volcanic platform had eventually been raised above the level of the Mediterranean. We see, as in the case of the

youngest and smallest of the three craters which have risen through each other to the north of Astroni, that some of the Neapolitan vents were only a few yards in diameter. And we learn also that at least one, and probably others of them, were the product of single eruptions, for Monte Nuovo, which is nearly 500 feet in height, was thrown up in the course of two days. Doubtless, these small and rapidly built monticules had many predecessors of like type on the Roman Campagna.

In the second place, the cones connected with the tuff of the district around Rome, being composed of loose fragmentary materials, would be easily washed down. No one can ramble over that area without being struck with the singular scarcity of solid lava among the endless exposures of tuff. It is true that around the great craters of the Alban and Ciminian Hills a good deal of lava can be seen to have been emitted. But these masses, like the volcanoes that gave vent to them, belong to that later stage of the volcanic history to which I have referred. Only to a trifling extent does the tuff of the Campagna appear to include contemporaneous sheets of lava. If, then, molten rock has hardly ever poured out at the surface, it may rarely have risen and consolidated in the upper parts of the throats of the volcanoes, so as to form there a hard core which would remain as a projecting knob when the surrounding loose ashes were leveled down by denudation.

In the third place, there can now be no doubt that the greater part of the sheet of tuff in the Roman Campagna was accumulated under the sea. This subject was for many years one on which various contradictory opinions were held. Some writers, from the general stratified structure, correctly maintained the marine origin of the tuff. Again, on the evidence of enclosed land-plants and animals, some observers have regarded it as a fresh-water deposit, while others have looked upon it as a terrestrial formation. It is true, as I shall point out a little farther on, that here and there, especially in its upper parts, the tuff includes intercalated bands of strata containing land and fresh-water shells as well as bones of terrestrial mammals, and indicating that the floor of the sea had been converted into low land with brackish lagoons and lakes of fresh water. But as regards the main mass of the tuff of the Campagna, the question of its marine origin may now be considered as definitely settled by the researches of Professor Portis, of the University of Rome. In specimens of different varieties of the rock from all parts of the district, and previously supposed to be entirely unfossiliferous, this careful observer has found that foraminifera are often abundant and well preserved. These organisms are unequivocally marine, swimming freely in the upper waters and sinking when dead to mingle with the silt or to form of themselves an ooze on the bottom. We can thus understand

how they might be borne along above a sea-floor where molluscan life was hardly possible.

If, then, cones of loose ashes and scoriæ were thrown up on the bottom of the sea, they would obviously be apt to be rapidly leveled by the agitation of currents and ground swell, while those which rose above the surface of the water, as Lipari, Volcano and Stromboli do now, would be subject also to continual erosion by rain and to unceasing attack along their shores by wind-waves. They would thus tend to be ultimately planed down, their materials being strewn over the surrounding sea-bottom, so as to add to the general accumulating sheet of tuff. The rapidity with which this kind of demolition may be completed was impressively exemplified in this very area of the Mediterranean by the history of Graham Island, which in the summer of 1831 was thrown up by a submarine eruption off the southwest of Sicily. In the course of less than a month, a cone of loose cinders, scoriæ and pumice was piled up to a height, it is said, of more than 200 feet above sea-level, with a circumference of three miles and a large crater inside. In about three months, this volcano was leveled with the surface of the sea.

As a consequence of the prolonged eruptions, the water along the west coast of Central Italy must have become increasingly shallow. This result may not improbably have been expedited by that uplift of the whole region to which reference has above been made. In course of time, not only would volcanic cones appear as islands above sea-level, but the action of winds, waves and tidal currents would throw up bars of *lidi,* like those of Venice or those of more ancient date which traverse the alluvial plain on either side of the mouth of the Tiber. Further deposition of sediment, either from the volcanoes or from the torrents of the Apennines, would lead to the silting up of the lagoons between these bars. The hollows on the newly gained land would eventually become fresh-water lakes, and the drainage from the mountains would find its way by numerous channels across the low plain into the sea. Thus, the Tiber, escaping from its narrow estuary among the hills not improbably continued its southwesterly course, so as to pass across what afterwards became the great volcanic district of Bolsena and to enter the sea somewhere between Civita Vecchia and Orbetello. The Anio would thus at that time be the main stream in the Roman Campagna.

From the layers of lacustrine or fluviatile deposits in the tuff and also from cavities and fissures in the limestone-hills, which then as now rose abruptly from the edge of the volcanic plain, an interesting series of organic remains has been obtained which throw a vivid light upon the plants and animals of the centre of Italy in the volcanic period. So far as yet discovered, the flora was on the whole similar to that which still survives in the

district. But the fauna was strangely different. If the remains have been correctly identified, the land animals of the time consisted of a curiously mixed assemblage, including, on the one hand, many forms which have long been extinct, together with some which still inhabit the surrounding region; and on the other hand, quadrupeds characteristic of southern Europe or Africa, as well as a few whose descendants are only found much farther north. The open glades were traversed by various species of deer, gazelle and wild ox, most of which are no longer living but which comprised the red deer and the reindeer. There were likewise herds of more than one kind of horse, whose bones have been found at some places in great numbers. The caverns and clefts in the hills were tenanted by lions and hyenas, lynxes and wild cats. The woods were haunted by brown bears, badgers, wolves and foxes. Strangest of all, the denizens of the region were the huge pachyderms—mastodons, elephants, and rhinoceroses, including that northern form, the mammoth. Beavers built their dams across the smaller streams, while the hippopotamus disported himself in the rivers, which were likewise tenanted by several species of aquatic tortoises. There is occasionally something strangely incongruous in the circumstances under which the remains of these primeval creatures are found in places that have long been known only from their association with the course of Roman history. One of the most singular examples of this contrast was seen in the recent unearthing of a well-preserved tusk of a hippopotamus a few inches underneath the pavement of the atrium of the Vestal Virgins in the Forum Romanum. There can be little doubt that the main part of this curiously varied fauna had established itself in Italy long before the volcanoes first began their eruptions and that many of its most singular and characteristic members continued to live on during the volcanic period, for their remains have been exhumed from some of the later deposits. A few like the otter, the mole, the hare and the fox have remained in this region down to the present day.

It was after the Campagna had become a land-surface, tenanted by this remarkable assemblage of animals, that the manifestations of volcanic energy reached their climax. Instead of finding outlets in many minor vents that discharged showers of ashes and stones, it now broke out in a few large craters from which not only copious discharges of fragmentary materials but also streams of lava were emitted. In the district around Rome this greater localization and more violent activity were specially concentrated in two areas separated from each other by an intervening plain about thirty-five miles broad. On the south side of this plain, the group of the Alban Hills was built up by many successive eruptions; on the north side, a chain of important vents stretched from Bracciano northwards to the great crater

of Bolsena. Of these two areas, the southern comes more closely into connection with Rome and the Campagna, and as it tells its story vividly and fully, it claims our more special attention.

The Alban Hills, so striking a feature in the scenery of the region and so indissolubly associated with the early chronicles of the Eternal City, consist essentially of one great volcanic cone of the type of Vesuvius, with a base about twelve miles in diameter. This cone is so deeply truncated that its summit, from one side of the rim to the other, measures about six miles. The highest point of the rim is 3071 feet above sea-level. Inside lies the huge cauldron-like depression that formed the original crater of the volcano, encircled with steep slopes and rocky walls save on the northwest side towards Rome, where the continuity of the crater-ring has been destroyed.

The abrupt truncation of this cone, the disappearance of the western portion of its rim, the great size of its crater compared with the total height of the mountain, and the existence of a later cone and crater inside, together with a number of craters outside, suggest that the energy of the volcano culminated in a gigantic explosion, whereby the upper half of the cone, perhaps twice as high then as it is now, was blown away, leaving inside a yawning chasm or caldera that opened towards the west, where the wall was broken down. Such a paroxysm is known to have occurred in the history of other volcanoes. In the case of Vesuvius, for example, Monte Somma remains as a fragment of the earlier and ampler condition of the mountain, before the catastrophe in which the upper part and the southern half of the cone were blown away. Since that event a new and smaller cone, forming the present Vesuvius, has been piled up on the southern segment of the old crater-rim.

The explosion that eviscerated the Alban volcano must have caused widespread desolation over the surrounding country. It was not improbably followed by a long interval of repose. But the subterranean energy was not exhausted, though it never again showed itself on so vigorous a scale. We can trace, indeed, the signs of its gradual enfeeblement. When it recommenced its activity the vent, which served as the channel by which its eruptions took place, still retained its central position. Round this vent a new but much smaller cone, bearing witness to less vigor of eruption, was built up in the middle of the crater. This younger mass rises in Monte Cavo to a height of 3150 feet, the highest elevation on the whole mountain. It encloses a well-marked crater with the flat plain of the Campo di Annibale at its bottom. Eventually the central orifice came to be choked up by the lava that had risen and solidified with it, and as the volcanic forces still sought an outlet to the surface, they were compelled to find egress at other and weaker points of the volcano. At least two explosions took

place on the old crater-rim and produced the deep-sunk and singularly impressive lakes of Albano and Nemi. Others broke out on the flanks of the great cone. Of these, the largest is marked by the crater of the Valle Ariccia, but at least two dozen of smaller size have been discriminated by the geologists of the Government Survey round the outer slopes of the volcano. These lateral vents probably mark the sites of the last eruptions.

While the Alban Mount was heaped up on the southern margin of the Campagna another independent series of volcanoes rose on the northern border. The Lago di Bracciano marks the position of the vent that lay nearest to Rome. The huge cavity in which this sheet of water lies is some six miles in diameter and not improbably owes its origin to another and still more stupendous explosion than that of the Alban Hills. The level of the lake is 538 English feet above the surface of the Mediterranean, and as the water is as much as 900 feet deep, the bottom is 362 feet below sea-level. The crater wall still rises in the Rocca Romana to a height of 1437 feet above the sea, or 900 feet higher than the lake which it encloses. Numerous streams of lava have poured down the outer slopes of the cone, especially on the southern flank. A few minor craters have been opened on its east side, and all round there still rise warm springs and emanations of sulphuretted hydrogen. To the north of this great vent lies another of similar character and origin but of smaller size, which now contains the Lago di Vico. The surface of this lake, which stands at a height of 1663 feet above sea-level, is encircled by a crater-wall which on the west side rises to nearly 1600 feet above the sheet of water which it encircles. To the northeast rises the volcanic mass of Monte Cimino, 3464 feet high. Still farther north is the largest of all the Italian crater-lakes, the Lago di Bolsena, which is no less than twenty-eight miles in circumference.

Having regard to the great variety of material in these different volcanic piles and to the evidence furnished by them that they were formed by many successive eruptions, perhaps separated from each other by long intervals of time, we cannot but be impressed with the antiquity of the cones and the protracted period required by each of them for its formation. We must remember, too, that from the very beginning of their history they were ceaselessly attacked by the various agents of subaërial erosion. The first showers of rain that fell on their young slopes of incoherent ashes gathered into runnels which would plough furrows in their descent to the plain. Century after century these watercourses were cut deeper and wider until they have attained the dimensions of the numerous *fossi* that now radiate from each crater-rim. In some cases these lines of erosion served as channels for the streams of lava that were poured down the slopes, as may be well seen on the southern flanks of the Bracciano volcano.

In most instances the molten rock stopped short on the flanks of its apparent mountain, but it occasionally descended into the plain, as in the familiar example on the Via Appia, where the stream flowed from the side of the Alban volcano for some six miles to within a short distance of the site of the future capital of the world. The lava is here a firm, compact, durable stone admirably adapted for pavements, a use to which it has been extensively put for more than two thousand years, both within the walls and on the great high roads that radiate from them. Here, again, we see how bountifully Rome was favored in regard to the materials needed for the construction of a great city.

The heaping of so much volcanic rock over the surface of the country must have greatly modified its topographical features. The drainage would especially be affected. Streams descending from the Apennines would find their direct passage to the sea blocked by the newly formed ridges, hills and mountains, and they might have to make long circuits before finding an exit. Lakes would gather in the hollows of the irregularly deposited tuff and others would fill up the cavities blown out by explosions and become crater-lakes. The case of the Tiber may be cited in illustration of the deflection of drainage. In earlier times, as I have already remarked, this river probably flowed southwestwards across the site of the volcanic district of Bolsena and Viterbo; but in consequence of the subsequent eruptions, the lower part of its course was buried and the stream, diverted at a right-angle, was made to run southeastwards, skirting the volcanic heights until, near Monte Soracte, it reached the plain between the base of the Bracciano and that of the Alban volcano, where it was able at length to find a seaward passage across the site of Rome.

That the early races of man witnessed and suffered from the latest eruptions may well be believed. The oldest traces of human occupation are stone implements, found more particularly in the higher river-gravels which, though they must undoubtedly date back to a remote antiquity, are certainly much later than the general mass of the tuff of the Campagna. Traditions of volcanic events seem to have survived into historic times. The pages of Livy, for example, contain references to showers of stones that fell in various places during the early centuries of Rome, and were regarded as portents of divine interposition in human affairs. We are told that in the hundredth year of the city showers of that kind fell on the Alban Mount, accompanied with loud noises from the wood on the summit. Again, in the year 540, fearful storms are said to have been experienced, while a fall of stones on the Alban Mount went on continuously for two days. Nineteen years later, amidst a miscellaneous series of prodigies, it is said to have rained stones at Aricia, Lanuvium, and on the Aventine. Such references

have by some writers been interpreted as proofs of true volcanic eruptions, thus bringing the activity of the volcanoes around Rome well down into historic time. A supposed confirmation of this conclusion has been claimed to have been found on the ridge of Castel Gandolfo, where numerous burial urns containing cremated human remains have been unearthed five or six feet below the surface of the ground. Associated with these interments were fibulæ and objects in amber and bronze, together with specimens of Etruscan or Italo-Greek pottery of a beautifully Archaic pattern. It has been maintained that the superficial covering of volcanic material (which has even been called "lava") has been the product of one or more volcanic eruptions, subsequent to the time of the burials, and hence that these eruptions must have taken place not only after the Stone Age, but even so late as after the coming of the Greek colonists. It has even been held that the shepherds of the Alban Hills, driven away from these heights by the violence of the volcanic disturbances, took refuge on the Seven Hills, where they founded the city and empire of Rome. More probably the volcanic detritus which overlies the cinerary urns is of much more ancient date, the interments having been made by digging down through it, long after the last eruptions of the volcano had ceased.

It is not necessary, however, to refuse credence to all the portents recounted by Livy. More than two thousand years ago, when the events cited by him are alleged to have happened, the volcanic forces of the region must have been more potent than they now are, and various manifestations by them may have occurred which we do not expect to see repeated at the present day. Though the subterranean fires have been steadily dwindling, they even yet retain heat enough to supply many thermal springs and to discharge large quantities of sulphuretted hydrogen gas. Now and then, also, they show a sudden though local manifestation of energy and cause disturbances sufficiently alarming to fill the population with superstitious dread. An instance of this kind, which was witnessed within living memory, may here be cited as affording a reasonable explanation of some of the supposed supernatural prodigies recorded in Roman history. On the south side of Monte Soracte lies a dried-up lake which, no doubt on account of its offensive sulphuróus exhalations, was called the Lagopuzzo, or Stinking Mere. The late Professor Ponzi has recorded that towards the end of the month of October, in the year 1831, a series of cracks suddenly opened on this old lake-bottom and a large piece of flat ground lying between them gradually sank out of sight. At the same time subterranean rumblings commenced and grew in intensity, mingled with detonations like the thundering of cannon. The surrounding population fled in terror to the neighboring hills, whence looking back, they could see earth and water thrown up from the

fissures, while a thick coating of dust fell over the whole district. The eruption began towards sunset and reached its culmination about seven o'clock in the evening. Next morning it was found that the Lagopuzzo was traversed by a chasm with vertical walls at the bottom of which lay a sheet of water covered with a white scum and giving off a powerful odor of sulphuretted hydrogen. The ground around the cavity was strewn with pools of water and lumps of erupted earth, sometimes seventy cubic feet in size, which had been ejected to a distance of one hundred feet. The cannon-like detonations continued, but grew gradually less violent, each of them being accompanied by a copious discharge of the ill-smelling gas which threw the water into such commotion as to undermine the surrounding walls of alluvial earth and to cause portions of them to fall into the abyss. After a few days the disturbances ceased, leaving as their memorial a cross-shaped chasm upwards of three hundred feet in diameter, with walls rising some fifteen feet above the water, which was ascertained to be about one hundred feet deep.

Many such incidents as this may have been experienced in the history of ancient Rome. They would be quite enough to fill the minds of the populace with terror and to call for a nine days' expiation and lustration of the city. The traditional legend of the chasm that opened in the Forum and into which Curtius threw himself in full armor to propitiate the gods and save the city may very well have been founded on a real event of this nature. The lake or quagmire in the Forum may have been another Lagopuzzo rent open by an outburst of gas. The subterranean rumblings and bellowings (*boati*) which were accounted such dire portents in old times were exactly repeated near Monte Soracte in the autumn of 1831.

Before we pass from this volcanic period to the consideration of the next phase in the history of the Campagna it may be noted as an interesting feature in the growth of the Italian peninsula that the subterranean energy has been slowly dying out from north to south. The volcanoes of Central Italy have long since entered into the closing or Solfatara stage, when only steam, hot vapors and gases are emitted. But at the southern end of the chain lies the still vigorous Solfatara of Naples, with the various cones around it, some of which have been in eruption within the last few centuries, while Vesuvius continues to maintain an intermittent activity. Still farther south lie the Æolian Islands, where Vulcano occasionally breaks out, while Stromboli remains, as it has done since the beginning of authentic history, in a state of constant ebullition and eructation. At the far extremity of the volcanic belt rises the colossal cone of Etna, which from time to time displays an energy worthy of its place among the great volcanoes of the globe.

III. We have traced how the platform of the Campagna has been step by step built up, partly by the accumulation of silt, sand, and gravel on the sea-floor, partly by volcanic ejection, and partly by a widespread uplift of the whole region above sea-level, and we now reach the third and last section of our history in which we have to consider how the present topography of the ground has been produced. A little reflection will convince us that even before its elevation into land, the submerged surface of the district was probably far from presenting a dead flat, though it no doubt approached nearer to that form than it has ever done since. In spite of the leveling action of waves and currents, the sea-floor in front of the Apennine chain must have abounded in inequalities caused not only by the scour of the water, but more especially by the irregular distribution of the volcanic débris and the greater accumulation of this material around the submarine vents. Such inequalities would not only remain but grow more pronounced when the sea-bottom became a land-surface. Every subsequent outbreak of eruptive energy would aggravate them, but ultimately more potent still, because incessant in its operation, would be the influence of the various subaërial agencies by which the land is continually abraded. It is to these agencies that we must mainly ascribe the present topography of the district. By a ceaseless process of sculpture the volcanic platform has been ultimately carved into hillock and ridge, crag and cliff, valley and ravine. The tools which Nature has employed in this task have been the air, with its wide range of temperature and moisture, frost, rain and running water in all its manifold forms, from the tiniest rill to the broad current of the Tiber.

The key to the interpretation of the origin of the scenery of the Campagna is supplied to us by the lines of drainage. On the uplift of the region into land the streams that descended from the steep front of the mountains would make their way seaward along the lowest levels which they could reach. The channels thus chosen by them would be maintained for the future, save where some landslip or volcanic eruption drove them to seek new courses for their waters. Failing such exceptional causes of diversion, the original lines of drainage would gradually be carved deeper into the framework of the land by the erosion of the water running in them. Thus the streams and the valleys which they have cut out for themselves are the most ancient features of the topography. Between them lie ridges and plateaux, which have gradually become prominent owing to the excavation of the intervening hollows. These eminences, though not subject to such marked and rapid demolition as the channels where running water is allowed free play, nevertheless undergo an appreciable decay. Attacked by the alternate expansion and contraction, due to the heat of a clear Italian noon, quickly followed by the chill of a starry Italian night, the faces of the crags and

cliffs are slowly disintegrated. Heavy rain washes off the loose crust and exposes a fresh surface to renewed attack. Alternate saturation by rain and drying in sunshine, the effects of frost and the abrading influence of wind, all contribute their share to the process of carving. By this universal process of denudation, while the topographical features have been made continually more pronounced, a considerable thickness of rock has no doubt been removed from the general surface of the whole ground since its elevation into land.

While it is thus easy to realize, as one traverses the Campagna, how its main topographical characteristics have been evolved, there is a special fascination in pursuing the investigation of particular features and trying to trace their origin in detail. Take, for instance, the story of the valleys. I can hardly imagine a more delightful task for a lover of geology than to work out the history of the Tiber—an investigation which from the point of view we are here considering still remains to be accomplished. Even from any of the hills of Rome it is not difficult to follow some of the stages of this history. We have seen that the river may have flowed at first southwestward from its estuary among the Todi hills across the site of the volcanic district to the sea somewhere north of Civita Vecchia. We have further found that the volcanic eruptions which gave rise to the long line of heights between Aquapendente and Bracciano probably blocked up the older channel, and turned the stream towards the southeast and for many miles kept it from once more bending seawards until at last it found its escape across the low ground of the Campagna. Looking from the Monti Parioli up the broad strath, we see the Tiber meandering through its flat alluvial plain which, from a width of a mile and a half, suddenly contracts immediately below us to less than a third of that space. The meaning of this constriction will be understood if we remember the position of the sheet of hard travertine to which allusion has already been made. When the river began to flow across this tract of country, the general level of the ground, not yet reduced by prolonged denudation, was no doubt a good deal above what it is now, and the bed of the stream may even have lain at a higher level than the tops of the present ridges in which Rome is built. After traversing the volcanic plain the Tiber reached the western margin of this tract near where the Monti Parioli now rise. It then flowed southwards between the slopes of Monte Mario and the edge of the volcanic accumulations. It cut its way downward through the upper parts of the tuff, and at length encountered the sheet of travertine near the Ponte Molle. This hard stone would form for a time a barrier to the erosion which must have been comparatively rapid among the soft overlying tuffs. The river, ponded back into a lake-like expansion in front of the mouth of

the Anio, was made to sweep in a wide curve into the softer Pliocene strata of the Vatican ridge on the right bank. The travertine extends through the Parioli ridge and round the base of the Pincian Hill. A similar rock emerges in the precipitous bank on the west side of the Aventine, and farther south at the Monte Della Creta, opposite the Magliana bridge. Even where this resisting stone disappears, its place has often been taken by a variety of tuff much more compact than the usual rock of the district. It is the presence of these more durable kinds of stone that has curbed the erosive progress of the river on its left bank through the area on which the city stands. Where these barriers to its action were locally absent the river was able to scoop out bays and recesses among the softer parts of the tuffs. The Capitoline, Palatine, Aventine and Celian hills have survived as more or less isolated eminences from their fortunate possession of a more obdurate stone than the loose granular tuff of the surrounding Campagna. They once rose as islands out of the flood plain, and their steep sides, such as the Tarpeian rock and the cliffs that surrounded the original Roma Quadrata, owed their precipitousness mainly to the scour of the Tiber as it swept past their base.

Hardly less attractive would be the task of deciphering the history of the rough craggy ridges and broad, smooth plateaux which form such distinctive features in the scenery of the Campagna. In this investigation we would mark how these differences of contour have mainly arisen from variations in the character of the volcanic tuff. Where the rock has possessed little coherence and has consequently yielded more easily to the weather, it has crumbled away for the most part into gentle slopes which have been more or less shielded from further decay by a mantle of vegetation. But where the loose ashes and scoriæ have been accompanied with much fine dust and have consolidated into a hard, compact stone, this material has survived to form the more rugged features of the scenery. Every stage in the progress of the sculpture may be instructively seen at the edge of the volcanic plain, where it winds round the projecting spurs and curves into the retreating hollows and bays of the great Apennine wall. Little imagination is needed to picture this plain as a sea-floor over which the waves rolled along the base of the mountains. But when it was raised into land the torrents from the uplands began to dig out of it winding channels, which were gradually deepened into gullies that unite into wider ravines as they descend. Between those defiles portions of the old plain have been left, along the sides of which the successive sheets of tuff run as bold ribs or as green slopes, according to their relative durability. Here and there one of these outliers, girdled round with vertical walls of rock, rises as an almost inaccessible platform above the ravines around, and has served as the site of some pre-

historic citadel or of some mediæval fortalice. All over the Campagna, indeed, from the very earliest ages, advantage has been taken of such defensible sites. They were selected as positions for the cities of Latium and Etruria, art often aiding to scarp their sides into steeper and more continuous crags than Nature had provided. They supplied convenient sites for the abundant *suburbana* or country villas and manors of ancient Rome, and they were used over and again in the stormy Middle Ages for the erection of fortified farms and refuge-towers.

A discussion of the history of the Campagna would probably be regarded as culpably incomplete without at least a reference to the causes that have led to the solitude and desolation of the region. There can be little doubt that in the days of the Empire the plain was thickly peopled and well cultivated. It could not have been the fever-stricken place which it has since become. The wealthy Romans were delighted to escape from the tumult of town to their quiet and healthy retreats in the country where, amid the pleasures and occupations of their farms, they could spend the hottest, and what is now the most insalubrious, season of the year. Yet there would seem to have been even then malarious tracts in the Campagna. Cicero boasts of the healthiness of Rome, compared with the pestilential character of the surrounding district. The porousness of the tuff all over the country, as I have above remarked, allows a large proportion of the rain to sink at once under ground, instead of flowing off into runnels and brooks. The water finds its way again to the surface at lower levels, either in the form of springs or oozing from the soil. In the hollows where the drainage accumulates, stagnant pools and marshes arise, which become the great nurseries of malaria. In the most flourishing days of Rome when the whole surface of the Campagna was populous and in full cultivation, attention was alive to the importance of drainage. Probably most of the swampy tracts, whence mosquitoes now swarm, were then dry and turned over by the plough or the spade. The general processes of agriculture prevented the accumulation of stagnant water and rotting vegetation. But with the fall of Rome and the devastation of the Campagna by successive hordes of barbarians, the villas fell into ruins, the inhabitants were in great measure extirpated, the farms remained untilled, the soil was left untouched, the water was allowed once more to gather and the vegetation to decay in the hollows. In the well-known words of Gibbon, "The Campagna of Rome was speedily reduced to the state of a dreary wilderness in which the land is barren, the waters are impure and the air is infectious." Fever, which probably always found a home in various parts of the district, now stalked everywhere, until at the end of the twelfth century, when the population of the city had fallen to no more than 35,000 souls, Pope Innocent III. could de-

clare that it was difficult to find there a man of forty years of age and hardly possible to meet with one of sixty.

No one will dispute that the sole, or at least the chief, cause of this long-continued depopulation is to be found in the prevalence of malarious fever. Nor since modern science has so clearly revealed the nature and source of this decimating malady can there be any hesitation as to the more important steps that must be taken to restore the region to healthfulness and fertility. Schemes are now in contemplation to reclaim these wastes to cultivation and to repeople them with an industrious peasantry. While every lover of Italy will rejoice over the successful accomplishment of such a beneficent reform, those who have known the Campagna in the days of its desolation and have found in its weird loneliness and quiet beauty, in its monuments and memories of the past, an inexpressible delight, will perhaps be pardoned if they regretfully look back upon another of the charms of Rome which shall then have passed away.

COLERIDGE

ARTHUR SYMONS

LONDON

IN one of Rossetti's invaluable notes on poetry, he tells us that to him "the leading point about Coleridge's work is its human love." We may remember Coleridge's own words:

> "To be beloved is all I need,
> And whom I love I love indeed."

Yet love, though it is the word which he uses of himself, is not really what he himself meant when using it, but rather an affectionate sympathy, in which there seems to have been little element of passion. Writing to his wife, during that first absence in Germany, whose solitude tried him so much, he laments that there is "no one to love." "Love is the vital air of my genius," he tells her, and adds: "I am deeply convinced that if I were to remain a few years among objects for whom I had no affection, I should wholly lose the powers of intellect."

With this incessant, passionless sensibility, it was not unnatural that his thirst for friendship was stronger than his need of love; that to him friendship was hardly distinguishable from love. Throughout all his letters there is a series of causeless explosions of emotion, which it is hardly possible to take seriously, but which, far from being insincere, is really, no doubt, the dribbling overflow of choked-up feelings, a sort of moral leakage. It might be said of Coleridge, in the phrase which he used of Nelson, that he was "heart-starved." Tied for life to a woman with whom he had not one essential sympathy, the whole of his nature was put out of focus; and perhaps nothing but "the joy of grief," and the terrible and fettering power of luxuriating over his own sorrows, and tracing them to first principles, outside himself or in the depths of his sub-consciousness, gave him the courage to support that long, ever-present divorce.

Both for his good and evil, he had never been able to endure emotion without either diluting or intensifying it with thought, and with always self-conscious thought. He uses identically the same words in writing his last, deeply moved letter to Mary Evans, and in relating the matter to Southey. He cannot get away from words; coming as near to sincerity as he can, words are always between him and his emotion. Hence his over-emphasis, his rhetoric of humility. In 1794 he writes to his brother George: "Mine eyes gush out with tears, my heart is sick and languid with the weight of unmerited kindness." Nine days later he writes to his brother James: "My conduct towards you, and towards my other broth-

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ers, has displayed a strange combination of madness, ingratitude, and dishonesty. But you forgive me. May my Maker forgive me! May the time arrive when I shall have forgiven myself!" Here we see both what he calls his "gangrened sensibility" and a complete abandonment to the feelings of the moment. It is always a self-conscious abandonment, during which he watches himself with approval, and seems to be saying: "Now that is truly 'feeling'!" He can never concentrate himself on any emotion; he swims about in floods of his own tears. With so little sense of reality in anything, he has no sense of the reality of direct emotion, but is preoccupied, from the moment of the first shock, in exploring it for its universal principle, and then flourishes it almost in triumph at what he has discovered. This is not insincerity; it is the metaphysical, analytical, and parenthetic mind in action. "I have endeavored to feel what I ought to feel," he once significantly writes.

Coleridge had many friends, to some of whom, as to Lamb, his friendship was the most priceless thing in life; but the friendship which meant most to him, not only as a man, but as a poet, was the friendship with Wordsworth and with Dorothy Wordsworth. "There is a sense of the word Love," he wrote to Wordsworth in 1812, "in which I never felt it but to you and one of your household." After his quarrel in that year he has "an agony of weeping." "After fifteen years of such religious, almost superstitious idolatry and self-sacrifice!" he laments. Now it was during his first, daily companionship with the Wordsworths that he wrote almost all his greatest work. "The Ancient Mariner" and "Christabel" were both written in a kind of rivalry with Wordsworth; and the "Ode on Dejection" was written after four months' absence from him, in the first glow and encouragement of a return to that one inspiring comradeship. Wordsworth was the only poet among his friends whom he wholly admired, and Wordsworth was more exclusively a poet, more wholly absorbed in thinking poetry and thinking about poetry, and in a thoroughly practical way, than almost any poet who has ever lived. It was not only for his solace in life that Coleridge required sympathy; he needed the galvanizing of continual intercourse with a poet, and one to whom poetry was the only thing of importance. Coleridge, when he was by himself, was never sure of this; there was his *magnum opus,* the revelation of all philosophy; and he sometimes has doubts of the worth of his own poetry. Had Coleridge been able to live uninterruptedly in the company of the Wordsworths, even with the unsympathetic wife at home, the opium in the cupboard, and the *magnum opus* on the desk, I am convinced that we should have had for our reading to-day all those poems which went down with him into silence.

What Coleridge lacked was what theologians call a "saving belief" in Christianity, or else a strenuous intellectual immorality. He imagined himself to believe in Christianity, but his belief never realized itself in effective action, either in the mind or in conduct, while it frequently clogged his energies by weak scruples and restrictions which were but so many internal irritations. He calls upon the religion which he has never firmly apprehended to support him under some misfortune of his own making; it does not support him, but he finds excuses for his weakness in what seem to him its promises of help. Coleridge was not strong enough to be a Christian, and he was not strong enough to rely on the impulses of his own nature, and to turn his failings into a very actual kind of success. When Blake said, "If the fool would persist in his folly he would become wise," he expressed a profound truth which Nietzsche and others have done little more than amplify. There is nothing so hopeless as inert or inactive virtue: it is a form of life grown putrid, and it turns into poisonous, decaying matter in the soul. If Coleridge had been more callous towards what he felt to be his duties, if he had not merely neglected them, as he did, but justified himself for neglecting them, on any ground of intellectual or physical necessity, or if he had merely let them slide without thought or regret, he would have been more complete, more effectual, as a man, and he might have achieved more finished work as an artist.

To Coleridge there was as much difficulty in belief as in action, for belief is itself an action of the mind. He was always anxious to believe anything that would carry him beyond the limits of time and space, but it was not often that he could give more than a speculative assent to even the most improbable of creeds. Always seeking fixity, his mind was too fluid for any anchor to hold in it. He drifted from speculation to speculation, often seeming to forget his aim by the way, in almost the collector's delight over the curiosities he had found in passing. On one page of his letters he writes earnestly to the atheist Thelwall in defence of Christianity; on another page we find him saying, "My Spinosism (if Spinosism it be, and i' faith 'tis very like it)"; and then comes the solemn assurance: "I am a Berkleyan." Southey, in his rough, uncomprehending way, writes: "Hartley was ousted by Berkeley, Berkeley by Spinoza, and Spinoza by Plato; when last I saw him Jacob Behmen had some chance of coming in. The truth is that he plays with systems"; so it seemed to Southey, who could see no better. To Coleridge all systems were of importance, because in every system there was its own measure of truth. He was always setting his mind to think about itself, and felt that he worked both hard and well if he had gained a clearer glimpse into that dark cavern. "Yet I have not been altogether idle," he writes in December, 1800, "having in my own

conceit gained great light into several parts of the human mind which have hitherto remained either wholly unexplained or most falsely explained." In March, 1801, he declares that he has "completely extricated the notions of time and space." "This," he says, "I have *done;* but I trust that I am about to do more—namely, that I shall be able to evolve all the five senses, and to state their growth and the causes of their difference, and in this evolvement to solve the process of life and consciousness." He hopes that before his thirtieth year he will "thoroughly understand the whole of Nature's works." "My opinion is this," he says, defining one part at least of his way of approach to truth, "that deep thinking is attainable only by a man of deep feeling, and that all truth is a species of revelation." On the other hand, he assures us, speaking of that *magnum opus* which weighed upon him and supported him to the end of his life, "the very object throughout from the first page to the last [is] to reconcile the dictates of common sense with the conclusions of scientific reasoning."

This *magnum opus,* "a work which should contain all knowledge and proclaim all philosophy, had," says Mr. Ernest Coleridge, "been Coleridge's dream from the beginning." Only a few months before his death, we find him writing to John Sterling: "Many a fond dream have I amused myself with, of your residing near me, or in the same house, and of preparing, with your and Mr. Green's assistance, my whole system for the press, as far as it exists in any *systematic* form; that is, beginning with the Propyleum, On the Power and Use of Words, comprising Logic, as the Canons of *Conclusion,* as the criterion of *Premises,* and lastly as the discipline and evolution of Ideas (and then the Methodus et Epochee, or the Disquisition on God, Nature, and Man), the two first grand divisions of which, from the Ens super Ens to the *Fall,* or from God to Hades, and then from Chaos to the commencement of living organization, containing the whole of the Dynamic Philosophy, and the deduction of the Powers and Forces, are complete." Twenty years earlier, he had written to Daniel Stuart that he was keeping his morning hours sacred to his "most important Work, which is printing at Bristol," as he imagined. It was then to be called "Christianity, the one true Philosophy, or Five Treatises on the Logos, or Communicative Intelligence, natural, human, and divine." Of this vast work only fragments remain, mostly unpublished: two large quarto volumes on logic, a volume intended as an introduction, a commentary on the Gospels and some of the Epistles, together with "innumerable fragments of metaphysical and theological speculation." But out of those fragments no system was ever to be constructed, though a fervent disciple, J. H. Green, devoted twenty-eight years to the attempt. "Christabel" unfinished, the *magnum opus* unachieved—both were but parallel symptoms of a

mind "thought-bewildered" to the end, and bewildered by excess of light and by crowding energies always in conflict, always in escape.

Coleridge's search, throughout his life, was after the absolute, an absolute not only in thought but in all human relations, in love, friendship, faith in man, faith in God, faith in beauty; and while it was this profound dissatisfaction with less than the perfect form of every art, passion, thought, or circumstance, that set him adrift in life, making him seem untrue to duty, conviction, and himself, it was this also that formed in him the double existence of the poet and the philosopher, each supplementing and interpenetrating the other. The poet and the philosopher are but two aspects of one reality; or rather, the poetic and the philosophic attitudes are but two ways of seeing. The poet who is not also a philosopher is like a flower without a root. Both seek the same infinitude; one apprehending the idea, the other the image. One seeks truth for its beauty; the other finds beauty, an abstract, intellectual beauty, in the innermost home of truth. Poetry and metaphysics are alike a disengaging, for different ends, of the absolute element in things.

In Coleridge, metaphysics joined with an unbounded imagination, in equal flight from reality, from the notions of time and space. Each was an equal denial of the reality of what we call real things; the one experimental, searching, reasoning; the other a "shaping spirit of imagination," an embodying force. His sight was always straining into the darkness; and he has himself noted that from earliest childhood his "mind was habituated to the Vast." "I never regarded my senses," he says, "as the criteria of my belief"; and "those who have been led to the same truths step by step, through the constant testimony of their senses, seem to want a sense which I possess." To Coleridge only mind existed, an eternal and an eternally active thought; and it was as a corollary to his philosophical conception of the universe that he set his mind to a conscious re-building of the world in space. His magic, that which makes his poetry, was but the final release in art of a winged thought fluttering helplessly among speculations and theories; it was the song of release.

De Quincey has said of Coleridge: "I believe it to be notorious that he first began the use of opium, not as a relief from any bodily pains or nervous irritations—for his constitution was strong and excellent—but as a source of luxurious sensations." Hartley Coleridge, in the biographical supplement to the "Biographia Literaria," replies with what we now know to be truth: "If my Father sought more from opium than the mere absence of pain, I feel assured that it was not luxurious sensations or the glowing phantasmagoria of passive dreams; but that the power of the medicine might keep down the agitations of his nervous system, like a strong

hand grasping the strings of some shattered lyre." In 1795, that is, at the age of twenty-three, we find him taking laudanum; in 1796, he is taking it in large doses; by the late spring of 1801 he is under the "fearful slavery," as he was to call it, of opium. "My sole sensuality," he says of this time, "was not to be in pain." In a terrible letter addressed to Joseph Cottle in 1814 he declares that he was "seduced to the *accursed* habit ignorantly"; and he describes "the direful moment, when my pulse began to fluctuate, my heart to palpitate, and such a dreadful falling abroad, as it were, of my whole frame, such intolerable restlessness, and incipient bewilderment . . . for my case is a species of madness, only that it is a derangement, an utter impotence of the volition, and not of the intellectual faculties." And, throughout, it is always the pains, never the pleasures, of opium that he registers. Opium took hold of him by what was inert in his animal nature, and not by any active sensuality. His imagination required no wings, but rather fetters; and it is evident that opium was more often a sedative than a spur to his senses.

The effect of opium on the normal man is to bring him into something like the state in which Coleridge habitually lived. The world was always a sufficiently unreal thing to him, facts more than remote enough, consequences unrelated to their causes; he lived in a mist, and opium thickened the mist to a dense yellow fog. Opium might have helped to make Southey a poet; it left Coleridge the prisoner of a cobweb-net of dreams. What he wanted was some astringent force in things, to tighten, not to loosen, the always expanding and uncontrollable limits of his mind. Opium did but confirm what the natural habits of his constitution had bred in him: an overwhelming indolence, out of which the energies that still arose intermittently were no longer flames, but the escaping ghosts of flame, mere black smoke.

At twenty-four, in a disinterested description of himself for the benefit of a friend whom he had not yet met, he declares, "the walk of the whole man indicates *indolence capable of energies*." It was that walk which Carlyle afterwards described, unable to keep to either side of the garden-path. "The moral obligation is to me so very strong a stimulant," Coleridge writes to Crabb Robinson, "that in nine cases out of ten it acts as a narcotic. The blow that should rouse, *stuns* me." He plays another variation on the ingenious theme in a letter to his brother: "Anxieties that stimulate others infuse an additional narcotic into my mind. . . . Like some poor laborer, whose night's sleep has but imperfectly refreshed his overwearied frame, I have sate in drowsy uneasiness, and doing nothing have thought what a deal I have to do." His ideal, which he expressed in 1797 in a letter to Thelwall, and, in 1813, almost word for word, in a poem

called "The Night-Scene," was, "like the Indian Vishnu, to float about along an infinite ocean cradled in the flower of the Lotus, and wake once in a million years for a few minutes just to know that I was going to sleep a million years more." Observe the effect of the desire for the absolute, reinforced by constitutional indolence, and only waiting for the illuminating excuse of opium.

From these languors, and from their consequences, Coleridge found relief in conversation, for which he was always ready, while he was far from always ready for the more precise mental exertion of writing. "Oh, how I wish to be talking, not writing," he cries in a letter to Southey in 1803, "for my mind is so full, that my thoughts stifle and jam each other." And, in 1816, in his first letter to Gillman, he writes, more significantly, "The stimulus of conversation suspends the terror that haunts my mind; but when I am alone, the horrors that I have suffered from laudanum, the degradation, the blighted utility, almost overwhelm me." It was along one avenue of this continual escape from himself that Coleridge found himself driven (anywhere, away from action) towards what grew to be the main waste of his life. Hartley Coleridge, in the preface to "Table-Talk," has told us eloquently how, "throughout a long-drawn summer's day, would this man talk to you in low, equable, but clear and musical tones, concerning things human and divine"; we know that Carlyle found him "unprofitable, even tedious," and wished "to worship him, and toss him in a blanket"; and we have the vivid reporting of Keats, who tells us that, on his one meeting with Coleridge, "I walked with him, at his alderman-after-dinner pace, for near two miles, I suppose. In those two miles he broached a thousand things. Let me see if I can give you a list—nightingales—poetry—on poetical sensation—metaphysics—different genera and species of dreams—nightmare—a dream accompanied with a sense of touch—single and double touch—a dream related—first and second consciousness—the difference explained between will and volition—so say metaphysicians from a want of smoking—the second consciousness—monsters—the Kraken—mermaids—Southey believes in them—Southey's belief too much diluted—a ghost story—Good-morning—I heard his voice as he came towards me—I heard it as he moved away—I had heard it all the interval—if it may be called so." It may be that we have had no more wonderful talker, and, no doubt, the talk had its reverential listeners, its disciples; but to cultivate or permit disciples is itself a kind of waste, a kind of weakness; it requires a very fixed and energetic indolence to become, as Coleridge became, a vocal utterance, talking for talking's sake.

But beside talking, there was lecturing, with Coleridge a scarcely different form of talk; and it is to this consequence of a readiness to speak and

a reluctance to write that we owe much of his finest criticism, in the imperfectly recorded "Lectures on Shakespeare." Coleridge as a critic is not easily to be summed up. What may first surprise us, when we begin to look into his critical opinions, is the uncertainty of his judgments in regard to his own work, and to the work of his friends; the curious bias which a feeling or an idea, affection or a philosophical theory, could give to his mind. His admiration for Southey, his consideration for Sotheby, perhaps in a less degree his unconquerable esteem for Bowles, together with something very like adulation of Wordsworth, are all instances of a certain loss of the sense of proportion. He has left us no penetrating criticisms of Byron, of Shelley, or of Keats; and in a very interesting letter about Blake, written in 1818, he is unable to take the poems merely as poems, and chooses among them with a scrupulous care "not for the want of innocence in the poem, but from the too probable want of it in many readers."

Lamb, concerned only with individual things, looks straight at them, not through them, seeing them implacably. His notes to the selections from the Elizabethan dramatists are the surest criticisms that we have in English; they go to the roots. Coleridge's critical power was wholly exercised upon elements and first principles; Lamb showed an infinitely keener sense of detail, of the parts of the whole. Lamb was unerring on definite points, and could lay his finger on flaws in Coleridge's work that were invisible to Coleridge; who, however, was unerring in his broad distinctions, in the philosophy of his art.

"The ultimate end of criticism," said Coleridge, "is much more to establish the principles of writing than to furnish rules how to pass judgment on what has been written by others." And for this task he had an incomparable foundation—imagination, insight, logic, learning, almost every critical quality united in one; and he was a poet who allowed himself to be a critic. Those pages of the "Biographia Literaria" in which he defines and distinguishes between imagination and fancy, the researches into the abstract entities of poetry in the course of an examination of Wordsworth's theories and of the popular objections to them, all that we have of the lectures on Shakespeare, into which he put an illuminating idolatry, together with notes and jottings preserved in the "Table-Talk," "Anima Poetæ," the "Literary Remains," and on the margins of countless books, contain the most fundamental criticism of literature that has ever been attempted, fragmentary as the attempt remains. "There is not a man in England," said Coleridge with truth, "whose thoughts, images, words, and erudition have been published in larger quantities than *mine;* though I must admit, not *by,* nor *for,* myself." He claimed, and rightly, as his invention, a "science of reasoning and judging concerning the productions of litera-

ture, the characters and measures of public men, and the events of nations, by a systematic subsumption of them, under principles deduced from the nature of man," which, as he says, was unknown before the year 1795. He is the one philosophical critic who is also a poet, and thus he is the one critic who instinctively knows his way through all the intricacies of the creative mind.

Most of his best criticism circles around Shakespeare; and he took Shakespeare almost frankly in the place of Nature, or of poetry. He affirms, "Shakespeare knew the human mind, and its most minute and intimate workings, and he never introduces a word, or a thought, in vain or out of place." This granted—and to Coleridge it is essential that it should be granted, for in less than the infinite he cannot find space in which to use his wings freely—he has only to choose and define, to discover and to illuminate. In the "myriad-minded man," in his "oceanic mind," he finds all the material that he needs for the making of a complete æsthetics. Nothing with Coleridge ever came to completion; but we have only to turn over the pages about Shakespeare, to come upon fragments worth more than anyone else's finished work. I find the whole secret of Shakespeare's way of writing in these sentences: "Shakespeare's intellectual action is wholly unlike that of Ben Jonson or Beaumont and Fletcher. The latter see the totality of a sentence or passage, and then project it entire. Shakespeare goes on creating, and evolving B out of A, and C out of B, and so on, just as a serpent moves, which makes a fulcrum of its own body, and seems forever twisting and untwisting its own strength." And here are a few axioms, "The grandest efforts of poetry are where the imagination is called forth, not to produce a distinct form, but a strong working of the mind"; or, in other words, "The power of poetry is, by a single word perhaps, to instil that energy into the mind which compels the imagination to produce the picture." "Poetry is the identity of all other knowledges," "the blossom and fragrance of all human knowledge, human thoughts, human passions, emotions, language." "Verse is in itself a music, and the natural symbol of that union of passion with thought and pleasure, which constitutes the essence of all poetry"; "a more than usual state of emotion, with more than usual order," as he has elsewhere defined it. And, in one of his spoken counsels, he says: "I wish our clever young poets would remember my homely definitions of prose and poetry; that is, prose—words in their best order; poetry—the best words in the best order."

Unlike most creative critics, or most critics who were creative artists in another medium, Coleridge, when he was writing criticism, wrote it wholly for its own sake, almost as if it were a science. His prose is rarely of the finest quality as prose writing. Here and there he can strike out a phrase

at red-heat, as when he christens Shakespeare "the one Proteus of the fire and flood"; or he can elaborate subtly, as when he notes the judgment of Shakespeare, observable in every scene of the "Tempest," "still preparing, still inviting, and still gratifying, like a finished piece of music"; or he can strike us with the wit or the pure intellect, as when he condemns certain work for being "as trivial in thought and yet enigmatic in expression, as if Echo and the Sphinx had laid their heads together to construct it." But for the most part it is a kind of thinking aloud, and the form is wholly lost in the pursuit of ideas. With his love for the absolute, why is it that he does not seek after an absolute in words considered as style, as well as in words considered as the expression of thought? In his finest verse Coleridge has the finest style perhaps in English; but his prose is never quite reduced to order from its tumultuous amplitude or its snake-like involution. Is it that he values it only as a medium, not as an art? His art is verse, and this he dreads, because of its too mortal closeness to his heart; the prose is a means to an end, not an end in itself.

The poetry of Coleridge, though it is closely interwoven with the circumstances of his life, is rarely made directly out of those circumstances. To some extent this is no doubt explained by a fact to which he often refers in his letters, and which, in his own opinion, hindered him not only from writing about himself in verse, but from writing verse at all. "As to myself," he writes in 1802, "all my poetic genius . . . is gone," and he attributes it "to my long and exceedingly severe metaphysical investigations, and these partly to ill-health, and partly to private afflictions which rendered any subjects, immediately connected with feeling, a source of pain and disquiet to me." In 1818 he writes: "Poetry is out of the question. The attempt would only hurry me into that sphere of acute feelings from which abstruse research, the mother of self-oblivion, presents an asylum." But theory worked with a natural tendency in keeping him for the most part away from any attempt to put his personal emotions into verse. "A sound promise of genius," he considered, "is the choice of subjects very remote from the private interests and circumstances of the writer himself." With only a few exceptions, the wholly personal poems, those actually written under a shock of emotion, are vague, generalized, turned into a kind of literature. The success of such a poem as the almost distressingly personal "Ode on Dejection" comes from the fact that Coleridge has been able to project his personal feeling into an outward image, which becomes to him the type of dejection; he can look at it as at one of his dreams which become things; he can sympathize with it as he could never sympathize with his

own undeserving self. And thus one stanza, perhaps the finest as poetry, becomes the biography of his soul,

"There was a time when, though my path was rough,
This joy within me dallied with distress,
And all misfortunes were but as the stuff,
Whence Fancy made me dreams of happiness:
For hope grew round me, like the twining vine,
And fruits, and foliage, not my own, seemed mine.
But now afflictions bow me down to earth:
Nor care I though they rob me of my mirth;
But oh! each visitation
Suspends what nature gave me at my birth,
My shaping spirit of Imagination.
For not to think of what I needs must feel,
But to be still and patient all I can,
And haply by abstruse research to steal
From my own nature all the natural man—
This was my sole resource, my only plan:
Till that which suits a part infects the whole,
And now is almost grown the habit of my soul."

Elsewhere, in personal poems like "Frost at Midnight," and "Fears in Solitude," all the value of the poem comes from the delicate sensations of natural things which mean so much more to us, whether or not they did to him, than the strictly personal part of the matter. You feel that there he is only using the quite awake part of himself, which is not the essential one. He requires, first of all, to be disinterested, or at least not overcome by emotion; to be without passion but that of abstract beauty, in Nature, or in idea; and then to sink into a quite lucid sleep, in which his genius came to him like some attendant spirit.

In the life and art of Coleridge, the hours of sleep seem to have been almost more important than the waking hours. "My dreams became the substance of my life," he writes, just after the composition of that terrible poem on "The Pains of Sleep," which is at once an outcry of agony, and a yet more disturbing vision of the sufferer with his fingers on his own pulse, his eyes fixed on his own hardly awakened eyes in the mirror. In an earlier letter, written at a time when he is trying to solve the problem of the five senses, he notes: "The sleep which I have is made up of ideas so connected, and so little different from the operations of reason, that it does not afford me the due refreshment." To Coleridge, with the help of opium, hardly required, indeed, there was no conscious division between day and night, between not only dreams and intuitions, but dreams and pure reason. And

we find him, in almost all his great poems, frankly taking not only his substance but his manner from dreams, as he dramatizes them after a logic and a passion of their own. His technique is the transposition into his waking hours of the unconscious technique of dreams. It is a kind of verified inspiration, something which came and went, and was as little to be relied upon as the inspiration itself. On one side it was an exact science, but on the other a heavenly visitation. Count and balance syllables, work out an addition of the feet in the verse by the foot-rule, and you will seem to have traced every miracle back to its root in a natural product. Only, something, that is, everything, will have escaped you. As well dissect a corpse to find out the principles of life. That elusive something, that spirit, will be what distinguishes Coleridge's finest verse from the verse of, well, perhaps of every conscious artist in our language. For it is not, as in Blake, literally unconscious, and wavering on every breath of that unseen wind on which it floats to us; it is faultless; it is itself the wind which directs it, it steers its way on the wind, like a seagull poised between sky and sea, and turning on its wings as upon shifted sails.

This inspiration comes upon Coleridge suddenly, without warning, in the first uncertain sketch of "Lewti," written at twenty-two; and then it leaves him, without warning, until the great year 1797, three years later, when "Christabel" and "The Ancient Mariner" are begun. Before and after, Coleridge is seen trying to write like Bowles, like Wordsworth, like Southey, perhaps, to attain "that impetuosity of transition and that precipitancy of fancy and feeling, which are the *essential* qualities of the sublimer Ode," and which he fondly fancies that he has attained in the "Ode on the Departing Year," with its one good line, taken out of his note-book. But here, in "Lewti," he has his style, his lucid and liquid melody, his imagery of moving light and the faintly veiled transparency of air, his vague, wildly romantic subject matter, coming from no one knows where, meaning one hardly knows what; but already a magic, an incantation. "Lewti" is a sort of preliminary study for "Kubla Khan"; it, too, has all the imagery of a dream, with a breathlessness and awed hush, as of one not yet accustomed to be at home in dreams.

"Kubla Khan," which was literally composed in sleep, comes nearer than any other existing poem to that ideal of lyric poetry which has only lately been systematized by theorists like Mallarmé. It has just enough meaning to give it bodily existence; otherwise it would be disembodied music. It seems to hover in the air, like one of the island enchantments of Prospero. It is music not made with hands, and the words seem, as they literally were, remembered. "All the images," said Coleridge, "rose up before me as *things*, with a parallel production of the correspondent expressions." Lamb,

who tells us how Coleridge repeated it "so enchantingly that it irradiates and brings heaven and elysian bowers into my parlor when he says or sings it to me," doubted whether it would "bear daylight." It seemed to him that such witchcraft could hardly outlast the night. It has outlasted the century, and may still be used as a touchstone; it will determine the poetic value of any lyric poem which you place beside it. Take as many poems as you please, and let them have all the merits you please, their ultimate merit as poetry will lie in the degree of their approach to the exact, unconscious, inevitable balance of qualities in the poetic art of "Kubla Khan."

In "The Ancient Mariner," which it seems probable was composed before, and not after "Kubla Khan," as Coleridge's date would have us suppose, a new supernaturalism comes into poetry, which, for the first time, accepted the whole responsibility of dreams. The impossible, frankly accepted, with its own strict, inverted logic; the creation of a new atmosphere, outside the known world, which becomes as real as the air about us, and yet never loses its strangeness; the shiver that comes to us, as it came to the wedding-guest, from the simple good faith of the teller; here is a whole new creation, in subject, mood, and technique. Here, as in "Kubla Khan," Coleridge saw the images "as *things*"; only a mind so overshadowed by dreams, and so easily able to carry on his sleep awake, could have done so; and, with such a mind, "that willing suspension of disbelief for a moment, which constitutes poetic faith," was literally forced upon him. "The excellence aimed at," says Coleridge, "was to consist in the interesting of the affections by the dramatic truth of such emotions, as would naturally accompany such situations," those produced by supernatural agency, "supposing them real. And real in this sense they have been to every human being who, from whatever sense of delusion, has at any time believed himself under supernatural agency." To Coleridge, whatever appealed vitally to his imagination *was* real; and he defended his belief philosophically, disbelieving from conviction in that sharp marking off from imaginary of the real as that which is part of the ordinary attitude of man in the presence of mystery.

It must not be forgotten that Coleridge is never fantastic. The fantastic is a playing with the imagination, and Coleridge respects it. His intellect goes always easily as far as his imagination will carry it, and does not stop by the way to play tricks upon its bearer. Hence the conviction which he brings with him when he tells us the impossible. And then his style, in its ardent and luminous simplicity, flexible to every bend of the spirit which it clothes with flesh, helps him in the idiomatic translation of dreams. The visions of Swedenborg are literal translations of the imagination, and need to be re-translated. Coleridge is equally faithful to the thing seen and to the laws of that new world into which he has transposed it.

" The Ancient Mariner " is the most sustained piece of imagination in the whole of English poetry; and it has almost every definable merit of imaginative narrative. It is the only poem I know which is all point and yet all poetry; because, I suppose, the point is really a point of mystery. It is full of simple, daily emotion, transported, by an awful power of sight, to which the limits of reality are no barrier, into an unknown sea and air; it is realized throughout the whole of its ghastly and marvelous happenings; and there is in the narrative an ease, a buoyancy almost, which I can only compare with the music of Mozart, extracting its sweetness from the stuff of tragedy; it presents to us the utmost physical and spiritual horror, not only without disgust, but with an alluring beauty. But in " Christabel," in the first part especially, we find a quality which goes almost beyond these definable merits. There is in it a literal spell, not acting along any logical lines, not attacking the nerves, not terrifying, not intoxicating, but like a slow, enveloping mist, which blots out the real world, and leaves us unchilled by any " airs from heaven or blasts from hell," but in the native air of some middle region. In these two or three brief hours of his power out of a lifetime, Coleridge is literally a wizard. People have wanted to know what " Christabel " means, and how it was to have ended, and whether Geraldine was a vampire (as I am inclined to think) or had eyes in her breasts (as Shelley thought). They have wondered that a poem so transparent in every line should be, as a whole, the most enigmatical in English. But does it matter very much whether " Christabel " means this or that, and whether Coleridge himself knew, as he said, how it was to end, or whether, as Wordsworth declared, he had never decided? It seems to me that Coleridge was fundamentally right when he said of the " Ancient Mariner ", " It ought to have had no more moral than the Arabian Nights' tale of the merchant's sitting down to eat dates by the side of a well, and throwing the shells aside, and lo! a genie starts up, and says he *must* kill the aforesaid merchant, because one of the date-shells had, it seems, put out the eye of the genie's son." The " Ancient Mariner," if we take its moral meaning too seriously, comes near to being an allegory. " Christabel," as it stands, is a piece of pure witchcraft, needing no further explanation than the fact of its existence.

Rossetti called Coleridge the Turner of poets, and indeed there is in Coleridge an aërial glitter which we find in no other poet, and in Turner only among painters. With him color is always melted in atmosphere, which it shines through like fire within a crystal. It is liquid color, the dew on flowers, or a mist of rain in bright sunshine. His images are for the most part derived from water, sky, the changes of weather, shadows of things rather than things themselves, and usually mental reflections of them.

"A poet ought not to pick Nature's pocket," he said, and it is for color and sound, in their most delicate forms, that he goes to natural things. He hears

> "the merry nightingale
> That crowds and hurries and precipitates
> With fast thick warble his delicious notes;"

and an ecstasy comes to him out of that natural music which is almost like that of his own imagination. Only music or strange effects of light can carry him swiftly enough out of himself, in the presence of visible or audible things, for that really poetic ecstasy. Then all his languor drops off from him, like a clogging garment.

The first personal merit which appears in his almost wholly valueless early work is a sense of color. In a poem written at twenty-one he sees Fancy—

> "Bathed in rich amber-glowing floods of light,"

and next year the same color reappears, more expressively, in a cloud—

> "wholly bright,
> With a rich and amber light."

The two women in "The Two Graves," during a momentous pause are found discussing whether the rays of the sun are green or amber; a valley is

> "Tinged yellow with the rich departing light;"

seen through corn at evening;

> "The level sunshine glimmers with green light;"

and there is the carefully observed—

> "western sky
> And its peculiar tint of yellow green."

"The Ancient Mariner" is full of images of light and luminous color in sky and sea; Glycine's song in "Zapolya" is the most glittering poem in our language, with a soft glitter like that of light seen through water. And he is continually endeavoring, as later poets have done on a more deliberate theory, to suffuse sound with color or make colors literally a form of music; as in an early poem—

> "Where melodies round honey-dropping flowers,
> Footless and wild, like birds of Paradise,
> Nor pause, nor perch, hovering on untamed wing."

With him, as with some of them, there is something pathological in this sensitiveness, and in a letter written in 1800 he says: "For the last month I have been trembling on through sands and swamps of evil and bodily grievance. My eyes have been inflamed to a degree that rendered reading scarcely possible; and, strange as it seems, the act of mere composition, as I

lay in bed, perceptibly affected them, and my voluntary ideas were every minute passing, more or less transformed into vivid spectra."

Side by side with this sensitiveness to color, or interfused with it, we find a similar, or perhaps a greater, sensitiveness to sound. Coleridge shows a greater sensitiveness to music than any English poet except Milton. The sonnet to Linley records his ecstatic responsiveness to music; Purcell's music, too, which he names with Palestrina's ("some madrigals which he heard at Rome") in the "Table-Talk." "I have the intensest delight in music," he says there, "and can detect good from bad"; a rare thing among poets. In one of his letters he notes: "I hear in my brain . . . sensations . . . of various degrees of pain, even to a strange sort of uneasy pleasure. . . . I hear in my brain, and still more in my stomach." There we get the morbid physical basis of a sensitiveness to music which came to mean much to him. In a note referring to "Christabel," and to the reasons why it had never been finished, he says: "I could write as good verse now as ever I did, if I were perfectly free from vexations, and were in the *ad libitum* hearing of fine music, which has a sensible effect in harmonizing my thoughts, and in animating and, as it were, lubricating my inventive faculty." "Christabel," more than anything of Coleridge, is composed like music; you might set at the side of each section, especially of the opening, *largo, vivacissimo,* and, as the general expression signature, *tempo rubato.* I know no other verse in which the effects of music are so precisely copied in metre. Shelley, you feel, sings like a bird; Blake, like a child or an angel; but Coleridge certainly writes music.

The metre of the "Ancient Mariner" is a re-reading of the familiar ballad-metre, in which nothing of the original force, swiftness or directness is lost, while a new subtlety, a wholly new music, has come into it. The metre of "Christabel" is even more of an invention, and it had more immediate consequences. The poem was begun in 1797, and not published till 1816; but in 1801 Scott heard it recited, and in 1805, reproduced what he could of it in "The Lay of the Last Minstrel" and the other metrical romances which, in their turn, led the way to Byron, who himself heard "Christabel" recited in 1811. But the secret of Coleridge's instinct of melody and science of harmony was not discovered. Such ecstasy and such collectedness, a way of writing which seems to aim at nothing but the most precisely expressive simplicity, and yet sets the whole brain dancing to its tune, can hardly be indicated more exactly than in Coleridge's own words in reference to the Italian lyrists of the fifteenth and sixteenth centuries. They attained their aim, he says, "by the avoidance of every word which a gentleman would not use in dignified conversation, and of every word and phrase which none but a learned man would use; by the studied position of words

and phrases, so that not only each part should be melodious in itself, but contribute to the harmony of the whole, each note referring and conducing to the melody of all the foregoing and following words of the same period or stanza; and, lastly, with equal labor, the greater because unbetrayed, by the variation and various harmonies of their metrical movement." These qualities we may indeed find in many of Coleridge's songs, part Elizabethan, part eighteenth century, in some of his infantile jingles, his exuberant comic verse (in which, however, there are many words "which a gentleman would not use") and in a poem like "Love," which has suffered as much indiscriminate praise as Raphael's Madonnas, which it resembles in technique and sentiment, and in its exquisite perfection of commonplace, its *tour de force* of an almost flawless girlishness. But in "Christabel" the technique has an incomparable substance to work upon; substance at once simple and abnormal, which Coleridge required, in order to be at his best.

It has been pointed out by the profoundest poetical critic of our time that the perfection of Coleridge's style in poetry comes from an equal balance of the clear, somewhat matter-of-fact qualities of the eighteenth century with the remote, imaginative qualities of the nineteenth century. "To please me," said Coleridge in "Table-Talk," "a poem must be either music or sense." The eighteenth-century manner, with its sense only just coupled with a kind of tame and wingless music, may be seen quite by itself in the early song from "Robespierre":

> "Tell me, on what holy ground
> May domestic peace be found."

Here there is both matter and manner, of a kind; in "The Kiss" of the same year, with its one exquisite line,

> "The gentle violence of joy."

there is only the liquid glitter of manner. We get the ultimate union of eighteenth and nineteenth century qualities in "Work without Hope," and in "Youth and Age," which took nine years to bring into its faultless ultimate form. There is always a tendency in Coleridge to fall back on the eighteenth-century manner, with its scrupulous exterior neatness, and its comfortable sense of something definite said definitely, whenever the double inspiration flags, and matter and manner do not come together. "I cannot write without a *body of thought,*" he said at a time before he had found himself or his style; and he added: "Hence my poetry is crowded and sweats beneath a heavy burden of ideas and imagery! It has seldom ease." It was an unparalleled ease in the conveying of a "body of thought" that he was finally to attain, beyond most other poets. In "Youth and Age," think how much is actually said, and with a brevity impossible in prose;

things, too, far from easy for poetry to say gracefully, such as the image of the steamer, or the frank reference to "this altered size"; and then see with what an art, as of the very breathing of syllables, it passes into the most flowing of lyric forms. Besides these few miracles of his later years, there are many poems, such as the Flaxman group of "Love, Hope, and Patience supporting Education," in which we get all that can be poetic in the epigram softened by imagination, all that can be given by an ecstatic plain thinking. The rarest magic has gone, and he knows it; philosophy remains, and out of that resisting material he is able, now and again, to weave, in his deftest manner, a few garlands.

HERBERT SPENCER AND HIS CONTRIBUTION TO THE CONCEPT OF EVOLUTION

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SINCE Spencer's death, there already have appeared many reviews and estimates of his life-work. Their number is likely soon to be increased by the reading of his *Autobiography*, which we now have in our hands. The new perspective in which this work enables us to see our philosopher is a sufficient justification for many attempts afresh to sum up and to characterize what he did for philosophical inquiry, and what his influence meant. Features of Spencer's activity which we have heretofore been obliged to view as it were from a distance, and to know only through the necessarily inadequate reports of his personal friends and disciples, are now brought near to us, and are exhibited in the decidedly clear light of his own deliberate and wholesomely straightforward confession. What, then, is the consequence of reconsidering the ideals and the methods of Spencer's philosophy in the light of his autobiography? To this question the following paper is an attempted, and admittedly partial, contribution.

Spencer's life-work is a part of a very large historical movement. For the sake, therefore, of giving the whole discussion its due setting, I shall begin with a few comments upon the general history and meaning of the concept of Evolution. I shall then review what the Autobiography tells us about the origin and significance of Spencer's own view of Evolution. Thirdly, I shall attempt a sketch of this view itself in its finished form. Fourthly, I shall close with some critical observations upon the significance of Spencer's work as a thinker.

I.—Some Aspects of the History of the Concept of Evolution

The names, Theory of Evolution, Philosophy of Evolution, Darwinianism, and, less frequently, Spencerianism, have now entered into general literature as denoting (in the minds of various people who use them) a decidedly variable collection of doctrines, all of which have to do with the growth, or, in general, with the natural origin of things. The doctrines in question either have actually originated during the nineteenth century, or else have been restored to a former prominence in the course of that period. If, as is very frequently the case, a biologist uses any of the terms in question, he is likely to confine their meaning, in the special discussion in which he chances to be engaged, to doctrines that have directly, and perhaps exclusively, to do with the origin of various animals or plants from earlier living forms, through a gradual and natural transformation. If a

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sociologist or historian employs such a term, he may give it a special reference to the doctrine of the animal descent of man, or he may merely be referring to theories regarding the origin or growth of languages, institutions, or civilizations. If a philosopher or theologian speaks of a theory of evolution, he may, on the contrary, include doctrines which refer to the entire process of the knowable universe, or at least to some aspect of that entire process. In Spencer's own usage the term "Evolution" was a name for *one* of *two* processes which together, according to him, comprise the "whole range of natural" events, so far as these can become known to us. These processes are for Spencer Evolution and Dissolution.

Since, by a doctrine of evolution, one who uses that word may thus refer to very inclusive and, on the other hand, to decidedly special theories, there is a good deal of confusion and a variety of results regarding what is meant by an "evolutionist." An evolutionist, in the minds of some people, means simply a man who leaves God out of account in trying to explain the origin of things, substituting natural agencies for creative acts. In the usage of others, stress is laid upon the notion that the "law of evolution" is supposed somehow to guarantee the triumph, in the long run, of whatever makes for "progress," so that an evolutionist shall be one who believes that Nature tends towards the constantly increasing perfection of the world, or at least of man. For still others, amongst whom are not a few liberal theologians, an evolutionist may be a theist, who holds that gradual processes of evolution constitute God's method of creation. A more technically limited usage defines an evolutionist as one who systematically uses the history of things as a means for explaining, or estimating, their nature and value. In this sense an evolutionist is one who, for instance, if he is a philologist, attempts to throw light on the grammar or on the etymology of a language by means of a comparative study of the evolution of the group of languages to which it belongs; or who, if he is a moralist, uses a theory of the origin of conscience to explain and to define the authority of conscience. And, finally, the term evolutionist may be limited in its application, as before indicated, so as to refer to one who holds opinions regarding the evolution of some single class of natural objects, such as stellar and solar systems, or animals, or social institutions.

Thus it becomes frequently uncertain what is implied by any particular usage of the term evolutionist; and the popular mind is frequently confused by the mistakes made. Nevertheless, it is true that the various tendencies to which the name is applied actually have a good deal in common. And one reason why it is hard to agree upon any terminology whereby the various sorts of opinion in question can be kept apart, lies in the fact that the tendency to believe that things in general have been subject to some sort of

evolution, is one of the oldest of human tendencies. The origin of the philosophical doctrine of evolution is lost in a remote antiquity. In some sense, such as is still frequently attached to the word, the early Greek philosophers of Nature were all of them evolutionists. The denial of evolution, or the definite subordination of the processes of growth to some other type of supposed realities, is, in philosophy, rather the later result of certain theoretical or theological considerations, than the earlier prejudice of the philosophers. The first philosophical attempts to explain things take naturally the form of evolutionary speculations. In giving a very new definiteness and a great wealth of novel detail to such speculations, the philosophy of the nineteenth century simply carried to a higher stage tendencies which had resulted from the most elementary forms of the scientific interest in the universe. As this view of the historical place of the concept of evolution in the history of human thought is popularly somewhat neglected, we must dwell upon the matter for a moment.

Man's speculations as to the origin of things take their earliest known form in those "creation-stories" which are found in so many primitive religions. The "creation-stories" are themselves often, in part, mythical accounts, not only of various creative and inventive feats of deities and demigods, but also of quasi-evolutionary processes,—that is, of processes conceived after the analogy of known natural processes of generation and growth. A creation-story is usually also a genealogy. Unexpected growths, and more or less magical, *i.e.,* in the primitive sense, physical processes, aid or thwart the deeds of creators; and only upon decidedly higher levels of religious thought do there appear gods powerful enough to create some whole order of things by their own directly exerted fiat. Even they may be thwarted here and there by the rebellion of their creatures, or by the devices of rival gods; so that it is hard to devise a theology which shall reduce everything to the result of one creative will. Something that has a nature of its own usually stands over against the mythical creator, as the material which he "fashions," as the chance which limits him, or as the enemy who uses more or less magical devices to baffle him.

Even primitive mythology thus prepares the way for an evolutionary fashion of thinking in which orderly processes take the place of fiats. Such a fashion of thought gets free as soon as philosophy fairly begins. Hindoo thought contains a good deal of evolutionary speculation. But Greek thought, in the pre-Socratic period, begins the very process of which our latest evolutionary thinking is the legitimate outcome,—an outcome determined, indeed, by a vast increase of a knowledge of nature, but impossible without the persistent use of certain leading ideas which the Greeks already possessed, and which we still employ in a way by no means wholly unlike

their own. We have no place here for any account of Greek opinion in the first period of ancient philosophy; but we may lay stress upon two or three leading ideas which belonged to the pre-Socratic age, and which have been potent even in the latest evolutionary speculation.

The first is the idea that Nature is a region where mutually opposed processes, in the long run, balance each other, producing as their combined result a vast circuit or cycle of changes, whereof all special processes of growth and decay are incidents. This leading idea (since often represented in popular thought, side by side with ideas that have resulted from later and higher grades of human knowledge), is obviously suggested by a comparatively crude induction which the early Greek thinkers soon rather hastily universalized, so as to apply it to all things. Night follows day, and day night; the seasons alternate; the changes of the weather, the periodic sequences of periods of drought and of rain, the ebb and flow of prosperity, suggest what our modern moralizing or weather-wise countryman still summarizes by various proverbs about the compensations of Nature, such as: "It is a long lane that has no turn," or: "What goes up must come down." In brief, Nature alternates between opposite tendencies. The early Greek cosmogonist generalizes from such processes. They indicate how the whole of Nature has been formed and will pass away,—doubtless to be renewed again in distant ages. From the "Boundless" of Anaximander, certain "opposites" differentiate; these, combining and recombining, lead to the complex world that now we see. But all these things will pass back again into the Boundless, "paying the penalty of the injustice" of their separate existence. "The way up" and "the way down," are the two opposed roads that the fire-stuff of Heraklitos follows, as it takes on the transient form now of this, now of that thing. It is governed,—this living fire-stuff,—by "measures." Nothing, therefore, is really gained or lost when new things arise, or when former things vanish. Something, vaguely conceived as "justly" invariant, persists, not as a fixed thing, but as a "measure," all through the process of natural change. It is as when one ware is "exchanged" for another; force is the fire-stuff "exchanged" for all things, and they in turn for it. Fixed law governs the whole process of this evolutionary exchange, whereby everything is generated, and in its turn is dissolved. There is no special creation about the process. It is an evolution. Later cosmogonists give us other accounts of the moving principle that determines the evolution or the dissolution of things; but the general notion that a vast rhythm of growth and decay, or of "mingling" and "sundering," of "thickening" and "thinning," or of some such opposed processes, determines the evolution of things, as well as their passing away, and the equally prominent notion that this rhythm is subject to regular law

of some sort, these soon become prominent ideas of early Greek physical speculation.

The second leading idea here in question is, that the evolution of mind, that is, of the souls of men and of animals, is an incident of this general process, and is governed by whatever laws determine the evolutionary process viewed as a whole. The early Greek physicist is unquestionably under the influence of primitive animism to such an extent that he conceives Nature as in some sense alive through and through. But, unlike the savage, he does not look to gods, or to spirits, or to other capriciously interfering wills, to explain the origin of anything in the natural world. Nature is a realm where a power, or where perhaps (as in case of the doctrine of Empedokles) two opposed powers, shall determine in a regular way, and in accordance with pervasive law, the whole process of evolution. This determining power (or possibly pair of powers) is at once a material power, and also more or less alive. It is "divine," "wise," "intelligent," or something of the sort. But it is also uniform, impersonal, and inseparable from its own expression in the course of the physical world. It is distinctly "Nature," and not any god or demon ruling over Nature from without, or interfering with Nature. It takes form equally in our bodies and in our soul-life. All Nature is thus an evolution, or a dissolution, of the embodiments of this power. And our own souls arise in a natural way in the course of this universal process.

A third leading idea, due to the fact that Greek philosophy grew up, so to speak, upon the seashore, is that the origin of life from the sea, or from "slime," or from some close connection between the processes which connect land, sea, and air, must be viewed as a central fact of importance for the comprehension of this whole evolutionary story. This idea of the origin of the organic from the inorganic appears in different degrees of prominence in different philosophies, and is of a somewhat secondary importance. But it survives in subsequent speculation. Nor was it a mere guess. It was due to a genuine, even if very crude, observation of Nature.

In later Greek philosophy, the conceptions of evolution and dissolution, while retaining a significant place in the greater systems of ancient thought, became somewhat subordinate, and sometimes obscured, by the predominance of other speculative interests. One notion which tended, by comparison, to render both evolution and dissolution less important for a philosopher's survey of the universe, was a leading philosophical idea very different from the "special creation" which the nineteenth-century evolutionist generally regards as his principal enemy. This was not the idea of any lawlessness or capriciousness of things, or of the prevalence of any miraculous interferences with the course of Nature, but rather the idea of the Eternity, and

so, very frequently, of the temporal permanence, not only of the universe, but of all the greater distinctions *within* the universe,—an idea which, in the form of the doctrine of the " permanence of species," did indeed directly oppose itself, in the last century, to Darwinism. This special idea of the permanence of species had long since been united, by Christian theology, with the conception of a special creation whereby all the permanent species had been initiated. But, in its more articulate forms, the idea of the permanence of the specific forms or " natures " of things came into later philosophy not at all as a corollary of the idea of a " special creation," but rather through the influence of Plato and Aristotle. And so this leading idea of later Greek philosophy was a part only of the general conception that the world, together with all of its most rationally significant features, is eternal. Plato's world contained a realm of flux, which, so far as it was flux, was evil and untrue, and a realm of eternal ideas, which were both true and good, and which were accordingly above all change. Aristotle did indeed lay great stress upon the evolution everywhere present in the sublunary region of " genesis and corruption." But in this region it was each individual thing which grows and then passes away. The " forms " which are responsible for the evolution of individuals are as eternal as the Platonic ideas. They therefore do not evolve. Plotinus conceived an universe which might indeed be called, in one sense, an " emanation " from its eternal first principle. But this emanation is not a temporal process. It has always taken place, in a series of descending grades of perfection, which temporally appear side by side. Only individual things, and souls, go through processes of growth or of progress, of decay or of falling away from perfection. In the universe, viewed as a whole, all the main distinctions are everlasting.

This conception of the *eternity of the forms of things* is, historically considered, by far the most significant opponent that the philosophical doctrine of evolution ever has had or ever can have. It is primarily the expression, not of primitive superstition, nor yet of a theistic bias, but of a very highly developed conception of things which tends in itself rather towards pantheism than towards creationism. This doctrine of the eternity of the forms was suggested to the philosophical mind by *three* different leading interests:—(1) An interest in astronomy; (2) an interest in logic and in mathematics; (3) an interest in the permanent significance of ethical truth. As to the first of these interests (ancient in origin, obvious in Plato, and still more pronounced in Aristotle) it had led early astronomers to a long-continued observation of the heavens, and to an impression that *there,* at least, all (except the fact of the motion of the various heavenly bodies), was eternally changeless, while the movements in question were themselves regularly repeated, and of invariable type. The second of these interests was

rendered impressive by the whole development of early Greek arithmetic and geometry, and by the Socratic and still more by the Platonic and Aristotelian studies of the nature of logical truth. The third interest, prominent, but undeveloped, in Socrates, reached a classic perfection of expression in Plato, and has ever since deeply influenced the course of human thought. It was one form of the concern in what Emerson has called "the sovereignty of ethics."

The result of these three interests was that the evolutionary aspect of the universe went into the background, *although never disappearing,* in later Greek speculation. Plato, Aristotle, Plotinus, all gave attention to the growth and to the decay of individual things, and to the laws of individual or of social progress and degeneration; but for them the universe, taken in its wholeness, could not, in view of the just-mentioned reasons, be conceived in terms of all-embracing evolutionary formulas. Both the Stoics and the Epicureans, returning in part to earlier forms of physical speculation, made the evolutionary aspect of the universe more prominent than did the systems just mentioned; but they, too, subordinated evolution to other aspects of the universe; for they were, above all, ethical philosophers.

Christian theology, uniting, as it did, Platonic and Aristotelian conceptions with the Theism of the prophets of Israel, and of their Jewish successors, was led to a sort of theological compromise which long remained classic. A conception of an initial special creation,—a conception due to Old Testament traditions,—was brought into a sort of synthesis with the Hellenic doctrine of the eternity of the "natures" or "forms" of things. An "order of Nature," occasionally interfered with by miracle, and supplemented by the unceasing creation of new human souls, consequently took the place of the older Greek philosophical conception, but still made the latter predominant in the explanation of all natural truth. The evolutionary aspect of things was thus, indeed, by reason of the creationism of the creed, placed still farther in the background; although more or less heretical revivals of evolutionary ideas of the foretime were present amongst the opinions that the Christian theologian from time to time had to encounter in controversy.

Modern philosophy, breaking away indeed, in the seventeenth century, from the regular course of theological tradition, was still, at the outset, under influences which gave it comparatively little opportunity to pay renewed attention to the evolutionary aspect of things. Amongst these influences to which modern philosophy was at first subject, was that of the physical sciences, as they developed from Galileo to Newton. Modern science, in this its first great movement, did not contribute to an interest in the growth of things, nor promise to throw much new light upon origins. For

just as the ancient astronomy had seemed to prove the eternity of the heavenly spheres, so the new astronomy, despite the enormous alteration in the conceptions of the physical world which it so quickly produced, gave in a new form the impression to the philosophers that the permanence of the celestial system, and in fact of the whole mechanical order of Nature, is much more important than is any process of an evolutionary sort that seems to take place in the realm of Nature, whether celestial or terrestrial. The typical seventeenth-century philosophers, despite their occasional evolutionary speculations, conceived the world as a whole, and the living organisms in particular, as complex machines. Such views, indeed, logically involved the conception that these machines, in so far as they had a beginning at all, must have had a purely natural origin, and this logical necessity is variously recognized; but is left as a subordinate fact. The highly synthetic doctrine of Leibnitz, in its great effort to unify the organic and the mechanical aspects of Nature, found a place for a sort of evolution, whereby special organic unities could have been developed. But the Leibnitzian metaphysical conceptions remained too remote from phenomenally verifiable processes to make possible any articulate conception of organic evolution. And so, once more, during not only the seventeenth, but the early part of the eighteenth century, there was illustrated the notable truth, so much overlooked by modern evolutionists of the Spencerian type,—the truth that the great historical enemy of the evolutionary interest in philosophy has been,—not "supernaturalism," nor yet the doctrine of "special creation," but *the tendency to conceive the universe as an eternal, and so, temporally viewed, as an essentially permanent order,* whose laws may be studied, and whose events often include what we call growth, but whose main outlines, classifications, processes, forms are the same yesterday, to-day, and forever; so that the story of the origins of things, even when true, is of secondary import. Astronomy, mechanical science, mathematics, logic, ethics, all furnish motives which, justly or unjustly, have led men to emphasize this view of things. Accordingly, *whenever these motives are predominant in special science and in philosophy, evolution is likely to be subordinated, overlooked, or denied.* Otherwise, however, evolutionary views are ancient and natural results of a study of Nature.

Not until the end of the eighteenth century, after a new Humanism had taken possession of the historical movement of life and of thought, did the time recur for making evolutionary concepts, of one sort or another, philosophically important. In order to narrate the tale of the rise of the evolutionary, or as one may (for the age in question) call it, the historical movement, one would have to recount the annals of the growth of Romanticism, to describe the movement of post-Kantian Idealism, and also to give

an account of the revival and of the rapid progress of the organic sciences, and of historical scholarship, in the whole period between 1770 and 1830. Suffice it here to say that, in the years in question, in German, and, to some extent, in French thought, the centre of scientific and philosophical interest was shifted, at first slowly, then rapidly, from a primary concern for the relatively mechanical explanation of Nature, to an intense devotion to a following of the growth of things. It is true that this shifting of interest did not obscure, in the minds of those who were interested in the more exact physical sciences, the belief that whatever historically happens in the natural world is also subject to definable, necessary, and, in some sense, mechanical laws. The trains of thought which led to the modern doctrine of energy, and which express themselves in Spencer's own conception of the Persistence of Force, are of the general logical type which was predominant in the thought of the seventeenth century. But nineteenth-century thought is not, as a whole, one-sided. It declines to ignore the mechanical aspect of things for the sake of emphasizing its interest in history. Yet, as a fact, it is still more intensely interested in the historical aspect of things than it is in their permanent nature. It is the century of the organic and humane sciences; and to these, despite the vast advances of physics, chemistry, and mathematics, the interest of the nineteenth century subordinates the unchanging, the eternal, the unhistorical aspect of Nature. The nineteenth century fully recognizes the latter; but this aspect of reality cannot hide from its view the significance of evolution. Geology, embryology, comparative philology, the history of religion, of social institutions, of art, of politics, anthropological research, sociological generalization,—these are the great new achievements of nineteenth-century science. The general doctrine of evolution, in its recent forms, is merely the culmination and natural outgrowth of these combined and affiliated types of research. The great battle for the recognition of the evolutionary aspect of things was already fought and won, in principle, before 1830. The traditional theological creationism of Christian doctrine was certain sooner or later to give way before the interests of a scientific and philosophical movement which had already added to the fabled word of Galileo: "And yet it *does* move," the further watchword,—a counter-assertion to the doctrine of a rigid and eternal mechanical order: "And yet it *does* grow." The problem of modern philosophy was thus the reconciliation of real evolution with real mechanism (since the nineteenth century believed in both), rather than the task of overcoming the theological doctrine of "special creation." The theologians, to be sure, were long unaware of the meaning of the new tendencies. The general public also had to be instructed. A Darwin was needed to show the naturalists how to bring their own long-since pronounced

evolutionary tendencies to a focus. There was and still is room for many men such as Spencer to throw light upon the synthesis which the new age needed. But the hindrance which had prevented the philosophy of the seventeenth century from reviving, in full force, early Greek evolutionism, was *not* Christian theology (which that philosophy already treated with becoming independence), but was the predominance of the mathematical and mechanical conceptions in the natural sciences of that earlier time, and the consequent absence of an interest in the growth of things. This hindrance lost its main force when the philosophy of the Romantic Period, and the revival of the historical and organic sciences after 1815, insured henceforth due attention to the evidences of evolution. From that time on, the process was an inevitable one, which the various natural sciences had only to apply in their special realms, and which theologians were bound to follow, like the rest of mankind, whenever their own time was ripe. "Special creation," viewed as a positive dogma, was quite as much discredited by the spirit of the philosophy of the seventeenth century as it could be by our own. Yet evolution could not take its place in philosophy until the time had come for recognizing the historical aspect of things.

So much for a few words by way of correcting a false perspective in which the history of the idea of evolution is still popularly viewed. As a fact, crude inductions in the infancy of science began already to point towards the later doctrine. And the tendency to exclude the miraculous from science is precisely as old as is Greek philosophy itself. Nor were even the early Greek forms of the doctrine of evolution mere guesses, as some writers still like to represent. They were hasty, but, for their time, very sane, and by no means wholly unjustified, results of the early observation of Nature. They already included: (1) The notion that the evolutionary processes are differentiations, whereby variety grows out of seeming simplicity; (2) The further notion that our souls have the same sort of natural genesis that our bodies have; (3) The idea that the whole evolutionary process is due to a single law, or pair of laws, and not to special creations; (4) The conception that life originates from the inorganic (from "earth," from the sea, from "slime," etc.); and (5) The thesis that there is, in the universe at large, a rhythm of evolution and dissolution, which is also connected with a rhythm of "thickening" and "thinning," of "cooling" and "heating," or of other processes; that is, with a rhythm of the general type of the "integration" and "disintegration" of which we have later heard so much. And it was a keen if crude watching of natural things which made all these ideas plausible to the early Greek philosophers.

For the rest, the historical motives which so long delayed the transformation of these first crude inductions into higher scientific shapes, were

by no means solely either theological or anti-scientific. They had to do with extremely important and rational motives, both of science and of philosophy,—motives which emphasized the need of a recognition of the more permanent aspects, both of Nature and of universal law. Thinkers were thus long held back from learning more about evolution, not merely by the survival in culture of a belief in miraculous creations, but still more by the growth, in their own leading minds, of an interest in mathematics, in ethics, and in the very permanence of natural law itself. Truth of the unchanging types thus often obscured, in men's thoughts, truth of an historical nature. Thus the delay of the recognition of evolution by Science and by Philosophy, was merely an incident of an inevitable one-sidedness of human thinking; but this one-sidedness was in no wise unwholesome, and was due to an overemphasis of motives that were, in part, both philosophic and scientific.

II.

In the England in which Herbert Spencer grew up, it was, nevertheless, the case that, in the period of his boyhood and youth, all these evolutionary tendencies were indeed remote enough from the minds of the popularly well-known thinkers. For the movement of the Romantic philosophy was hardly known in Great Britain; the Continental revival of historical scholarship had as yet but little affected the leading tendencies of English learning; the conservatism and caution of British scientific men, as well as the decidedly settled theological traditions of the country, alike served for years to keep the "development theory," so far as it was discussed at all, far in the background. In contributing so largely to the growth of the new science of geology, British research was indeed laying a most important part of the foundations for the coming evolutionary conceptions of the latter half of the century; but the meaning of this movement in geological research was still unrecognized. It was true of Great Britain, therefore, that a public acknowledgment of the significance of evolutionary ideas was still a long way from the focus of attention; and it was also true that the influence of a conservative theology was here far more potent in discouraging independent philosophical inquiry than was the case in Germany. It is not surprising, therefore, that, when Spencer ultimately came to consciousness regarding his own doctrines (ignorant as he always remained of their historical relationships), he should henceforth regard the revival of evolutionary conceptions as more of a break with philosophical traditions than it actually was. He, at least, was extraordinarily innocent regarding every sort of nexus between his own philosophy and that of any remote period or foreign country. His processes were, for his consciousness, his own. Honest as the day in acknowledging every indebtedness that he ever observed,

he never learned how to regard human philosophical thought itself as an evolutionary process, in which his own thinking had an organic place. Hence, as soon as we come to consider his own development, we have, like himself, to break for the time with tradition, and to consider him in all the very striking independence of his character, in all the unconventionality of his training. This is what he has now enabled us to do by means of his *Autobiography*.

The incidents of this narrative will attract, no doubt, their full share of attention, and will soon become familiar to many readers. Our concern is here more with the general type of the man, and with the way in which he so gradually and reasonably grew into his subsequent doctrine. The *Autobiography* shows us a life free from most of the great crises through which men of ability and sensitiveness are usually found to have passed. No romance made his youth stormy; no religious period had to be lived out; no great worldly ambition had to be disappointed. Always of slender means, he was never abjectly poor. Forced to earn his living, he was never long bound to any uncongenial work. Eccentric, he was never despised. Independent, and prone, as he says, to indiscreet criticism of his official superiors, so long as he had such, he still cherished no personal grudges, and had little or no consciousness of ever actually quarreling with anybody. Moreover, he deliberately abandoned good worldly chances which men who recognized his ability were glad to offer him. Wholly unwilling, and unable, to win favor by flattery or by social conformity, he made apparently few or no enemies, and cemented a few very lasting and loyal friendships, which, for him, were enough. Critical of all men, he was never bitter, except occasionally in controversy; and there his obvious love of truth usually made his sharpness of speech tolerable. Asking for no sympathy, he in the long run obtained a great deal of sympathy from those who valued him. With none of the arts of the party-leader, he won, in time, a little band of disciples whose devotion was, as we all know, wonderful, and whose fidelity took, upon occasion, very definite material forms. A confirmed bachelor, he was not only fond of children, but respected their independence, and treated them so as to show his respect. Devoid of romantic sentiments, he was capable of a very noble type of friendships with congenial women. A very elaborate, and in his own way a very technical thinker, and a friend of some of the greatest minds of his time, he also remained fond, in private life, of the company of some decidedly thoughtless people. Reserving his best for a Huxley or a George Eliot, he still was a good companion of plain folk. A propagandist, he still despised every ordinary device for winning public favor. Patient in his toil so long as the public neglected him, he declined all sorts of worldly honor when they came to

recognize him. In brief, his personal and worldly relationships were of a very high order of moral straightforwardness.

The great misfortune of his life was his nervous invalidism. This, of which he had in early manhood some warnings, became decidedly important in 1854, at the age of thirty-four, and thenceforth, with various intermissions, and with periods of greatly increased severity, remained his companion to the end. Its origin was, as his carefully narrated family history shows, partly due to his inherited nervous constitution—a sensitive and irritable one. On the other hand, even without any disposition to lay undue stress upon the recently over-emphasized theory which regards the nervous troubles of a vast number of literary men as mainly due to the indirect effect of eye-strain, no reader of Spencer's account who is accustomed to the ordinary complaints of nervous students, can fail to suspect that some sort of eye-defect played probably, almost unrecognized by Spencer, a very considerable part in his history of invalidism. In his earlier descriptions of his symptoms, the association of his "head-sensations," and of his subsequent insomnia, with reading "even for a few minutes," and the fact that, very early in his experience of defect, he found that he could often dictate without great confusion of head when he was unable to read or to write,—these are phenomena of a sort which we nowadays regard as *prima-facie* evidence that a man had better consult his oculist before becoming any more expert in mysterious head-symptoms. Spencer himself, however, seems to have invented explanations of his troubles mainly in terms of the peculiar states which he attributed to his cerebral circulation; and in the long run he plainly decided upon his devices for self-treatment and regimen with characteristic indifference to the advice of anybody else. His accounts of the later phases of his disorder, in his middle life and old age, show the usual marks of the man expert in a round of symptoms, and in a hypochondriacal mode of attributing to them more significance than they probably have. If Spencer could only have viewed them in another light, they might have proved much more manageable. In any case, this nervous history is interestingly free, despite the long-continued periods of incapacity which it often included, from the so frequent tale of deeper emotional and intellectual disturbance which most nervous students have to tell. Whatever the malady was, it left Spencer's essential moral personality remarkably unscathed and his associative processes relatively intact. It gave a certain dreary formality to his literary style, but did not injure his clearness and self-control of expression. It gave him no periods of deeper despair of which he thinks it at all worth while to tell. In the beautifully frank summary and estimate of the worth of his life, in his closing "Reflections," he plainly tries to say both the best and the worst that, as he thinks can fairly be said,

from a personal point of view, regarding the value to himself of the life which he has passed. And his worst is indeed not very bad. The principal moral consequence of his malady which he confesses was a frequently uncontrollable but very simply expressed irritability; so that, perhaps, he occasionally swore at a mishap in fishing, or otherwise gave way to some outburst which his early training and his intellectual habits alike made, in his own eyes, foolish. Such reflexes of the moment were associated with a certain chronic captiousness in his judgments of people, art, etc., and with a good many invalid eccentricities of conduct. Amongst these were the already famous ear-coverings whereby he used to escape from wearing conversations. In all his reflections on life in the *Autobiography,* Spencer is also fond of emphasizing the uncontrollable character of the emotions, in a way that partly depends upon his experience as an invalid. Nevertheless, even at his worst he strikes the reader as a man of uncommon freedom from uncontrollable emotions of a deeper sort; and one who reads, even between the lines, must be convinced that Spencer was spared a very great deal of what the nervous invalid of a highly intellectual type generally suffers. In his worst seasons Spencer had a good deal of aversion to meeting company, and found the delivery of anything like a public address usually intolerable during all his later years. He has also a little to say about certain very well-known experiences of "double consciousness," but fears, pessimism, an altered view of life, any genuine losing of touch with himself, any deeper loss of control over his associative processes, and many other of the usual complaints of the nervous student,—these are all notably absent. The whole story suggests a very stubborn, and doubtless in part constitutional, and so incurable, defect, but one that, after all, was much more superficial in its significance than he himself supposed. Upon his work it further reacted by increasing his impenetrable isolation from all trains and modes of thought that did not directly interest him. Since he could read so little, why try to understand books that could not instruct him? Since his nerve-centres were so ill supplied, as he assumed, with the needed blood, why exhaust them by opening his mind to ideas that were foreign to his own? His "ear-stoppers" thus remain typical of his persistent closing of his mind to all considerations which did not either support his predetermined theories, or else help him occasionally to reassert himself in vigorous polemic.

Apart from his invalidism, Spencer (as appears from his letters to his father and to his friends, and in his own story) early showed traits which remain throughout, at every stage of his career, very unchanging. Free from all the ordinary emotional excesses of weaker men, free, also, from vehement personal affections, yet kindly disposed, passively benevolent, and in this sense humane, he was most of all characterized not by his sentiments,

but by his ways of thinking and modes of action. An unaggressive but unconquerable stubbornness of opinion forbade him to acquire ideas by any method but his own. He inquired keenly, and into a very great variety of subjects. Yet what is usually meant by great breadth of mind is not to be asserted of him. For he could adapt his thoughts to no mental undertaking which he himself had not first predetermined; and his understanding of other people's intellectual interests was always of the slightest degree that was possible in so well-informed a man. In action he was cool and deliberate; but any plan which he had once determined upon dominated him as a sort of calm and passionless obsession. Thus when, in middle life, he had once resolved to see the eruption of Vesuvius without the aid of the guides (whose fees offended him), the dangers of hot lava had no importance for him, until he had passed through and seen what he came to see. In youth, therefore, so long as he looked to other men for employment, he changed his employers frequently, and seemed a "rolling-stone." But so soon as he made up his mind to produce his system, nothing could thenceforth distract him from the single great task. In his engineering years he was mechanically ingenious, and he records a considerable list of inventions. He solved mathematical problems and discovered a geometrical theorem of some importance, but never went far in mathematics. He made natural-history collections, but never became a naturalist. He performed physical experiments, but was no thorough-going physicist. He paused at the edge of political activities, but avoided public life. He records that he never puzzled over his problems. His intellectual processes, so far as his invalidism left them free, were automatic, pleasing, untroubled. At last they formed themselves into a systematic plan. The synthetic philosophy was the outcome of this plan.

Spencer records how each of the leading ideas of his system grew up in his mind. First came a love for tracing the causes of things, a love which early led him to the notion that Nature permits no miracles, that all processes of Nature are unbroken and continuous, and that all which is beyond the realm of discoverable law is altogether unknowable. Second came an assurance that, even as he himself was of an independent spirit, so *no* man's liberty ought to be hindered, so long as such a man did not interfere with his neighbor's liberty. Third came, slowly growing in his mind, the assurance that the "development theory" must account for living things, by means of a natural process, just as causation in general was needed to account for every other natural event and product. Next came the notion that, in particular, the life of the mind must be understood as a development, determined by natural causes, and connected with the development of all the phenomena of life. Finally came the conviction that a full and

coherent theory of Nature, in which the organic and inorganic worlds were united by the working of universal laws, not only would explain, so far as that was possible, the growth of things, but also would furnish a systematic and complete foundation for his own never-changing individualistic ethics, and for his sturdy, old-fashioned British liberalism. In this way, the main work of Spencer's life came to be an effort to bring into synthesis an organic theory of the unity of the evolutionary process, with a doctrine regarding the freedom and the rights of the individual which had come down to him from an age when evolution and the organic unity of things had indeed interested Englishmen but little. This particular synthesis of organic evolution with individual independence remains one of the most paradoxical and consequently most instructive, features of Spencer's teaching.

To go more into detail, this evolution of Spencer's own main ideas, as he carefully narrates the process, occurred somewhat as follows: In childhood, the idea of the supernatural was rapidly sent into the background of his mind by that search for causes which his father so constantly cultivated in him. Before he knew why, he had learned, quite without his father's intending this result, to disbelieve in miracles; and so, in early manhood, "the current creed and its associated story of creation," came, by insensible steps, to be abandoned. In consequence, a "belief in evolution at large" was soon "latent." For, as Spencer says: "The doctrine of the universality of natural causation has for its inevitable corollary the doctrine that the Universe and all things in it have reached their present forms through successive stages physically necessitated." This "latent" assurance first began to become explicit when, at twenty years of age, Spencer read Lyell's *Principles of Geology*. One of the chapters of Lyell was devoted to refuting Lamarck's theory of the origin of species; and this chapter, as Spencer tells us, "had the effect of giving me a decided leaning to" just such views. That is, as he tells us, Lyell's chapter brought to his consciousness, by contrast, what his own belief in the uniformity of Nature really implied as to the origin of organic forms.

Two years later, in 1842, when Spencer's political and ethical interests had led him to attempt a defence of the "tendency to carry individual freedom as far as possible," and when he consequently wrote a series of letters to the *Nonconformist* newspaper on "The Proper Sphere of Government," there was shown, in these letters, as he tells us, "an unhesitating belief that the phenomena of both individual life and social life conform to law." There was also expressed the view that the functions, the instincts, and the organs of any creature, whether animal, plant, or man, "are dependent upon the position in which the creature is placed." "Surround it," continues Spencer in one of these letters, speaking of any such creature, "with circum-

stances which preclude the necessity for any one of its faculties, and that faculty will become gradually impaired. . . . Place a tribe of animals in a situation where one of their attributes is unnecessary—take away its natural exercise,—diminish its activity, and you will gradually destroy its power. Successive generations will see the faculty, or instinct, or whatever it may be, become gradually weaker, and an ultimate degeneracy of the race will inevitably ensue. All this is true of Man." This, then, was his early way of expressing himself. Spencer, at this time, accordingly read the lesson of such tendencies in the form of the assertion explicitly made in these letters, that man's proper adaptation to his social functions will best occur if his relations to society are not artificially interfered with, and if he is not protected by the state from the necessity of exercising his individual powers, and of finding his own relatively "stable equilibrium" with his social world. Here, as Spencer points out, are already the germs of the whole later theory. A natural process of adaptation gradually determines the functions; and, in some greater or less measure, the structures, of living beings. This process is an instance of some all-pervasive system of physical law. It leads, if undisturbed, to certain conditions of stable equilibrium which in themselves tend to be good for the creature directly concerned. The social lesson is that the state ought not to interfere with this natural process of the evolution of the social individual.

In rewriting the discussions thus begun for his *Social Statics,* in 1850, Spencer recognized that alike in living organisms and in societies, "progress" is from conditions wherein "like parts" perform "like functions," to conditions wherein "unlike parts" perform "unlike functions,"—in brief, that "in these cases progress is from the uniform to the multiform." In the immediately subsequent years, the Milne-Edwards conception of "the physiological division of labor," and Von Baer's formula that the development of an organism is a change from "homogeneity of structure to heterogeneity of structure," were both added to Spencer's range of evolutionary conceptions. The ideas thus acquired were quickly generalized so as to receive application to the philosophy of literary style, to psychological phenomena generally, and to the evolution of social institutions. As Spencer proceeded, in 1854-1855, to the completion of the first edition of his *Psychology,* he was "suddenly led to the perception" that the advance "from the homogeneous to the heterogeneous is a universal trait of progress, inorganic, organic, and super-organic." The "multiplication of effects," and "the instability of the homogeneous" were, by 1857, both of them in his mind as the "causes" of this "universal transformation." In 1858 he definitely opposed to the "process of evolution" that of "dissolution," and regarded the rhythm of these processes as a mechanical necessity

to which all teleological interpretations of evolution must be subordinated. The conceptions of the transition from " the definite to the indefinite," and of the part which " integration " plays in evolution, gradually became clear to Spencer, partly during the course of the development of the *Psychology,* partly after the issue of the first edition of the *First Principles.* The *System of Synthetic Philosophy* was begun in 1860. The new conceptions which Darwin's *Origin of Species* furnished, in the course of the same year, were very generously welcomed and considered, but were rather too easily assimilated by Spencer to his own generalizations. And in 1864, at length, the final great step in the organization of Spencer's evolutionary theory was taken when he found " suddenly disclosed " " the truth that integration is a primary process and differentiation a secondary process; and that thus, while the formation of a coherent aggregate is the universal trait of Evolution, the increase of heterogeneity, necessarily subsequent, is but an almost universal trait; the one being unconditional and the other conditional." What was still further added, in 1867, related rather to a matter of detail.

One who reviews this process in its relation to the general history of the conception of evolution in recent times, is afresh impressed with the often observed fact that the centre of Spencer's philosophical interests always remained somewhat remote from the matters which mainly engaged either the popular or the scientific attention during the years when the evolutionary controversy was warmest. The popular readers of Darwin and of other evolutionists were usually most concerned with the questions: " Has there been any transformation of species at all? " " Is man descended from the lower animals? " " Is the human mind, or, again, conscience, or is religion, a purely natural product of evolution? " The scientific men who took part in the Darwinian controversy were also often interested in these more broadly speculative questions. But their own technical tasks led them to lay more emphasis, during the years since 1860, upon such questions as: " Has Darwin's (or any other) theory brought the origin or the transformation of species definitely within the range of legitimate scientific inquiry? " " Is Darwin's account, or (in later stages of the discussion) is some rival account of the factors to which the origin of species is due, probably a correct or an adequate one? " " Do the new theories aid us in formulating definite hypotheses that help us in other branches of special inquiry than those to which they have so far been applied? " What do we know about the ancestry of man?

Now, Spencer's philosophical interests had, as their main object, decidedly different topics from any of these. The just-mentioned questions of the more popular type never gave him serious concern, after

once his early years were passed. For that some natural process was responsible for the gradual development of living beings, and so of man, and of all mental and social phenomena, had appeared sure to him, as an inevitable result of the general belief in causation, already during the forties. It appeared sure to him for the same reasons that make some sort of evolution acceptable to the first philosophers of Greece. It was so far, for him, no result of scientific induction. It was simply a consequence of his now-settled habit of believing in the existence of a natural cause for everything. On the other hand, the more special Darwinian and anti-Darwinian arguments regarding the factors of organic evolution, much as they later interested him, never reached the first grade of importance in his mind. He contributed to such discussions, late in his career, some of the best of his shorter essays. But as a philosopher he was only by the way concerned with such things. He was rather busy, in the main, with the finding of a formula general enough to cover the whole range of evolutionary phenomena, and with proving that this formula correctly described the "cause" of evolution, so far as that cause is knowable at all. This "cause" is something much more general than is any one of the hypothetical special "factors of evolution." As a philosopher, Spencer is therefore most of all responsible for this general formula, and for undertaking to show that it applied to all sorts of evolutionary processes.

III.

And so we come, at length, in our account of Spencer, to an attempt at a restatement of the sense of Spencer's formula. Spencer's own peculiar vocabulary is as chronic an incident of his books as his head-symptoms were chronic incidents of his life. Let us try, for the moment, to use as far as we can our own words, while still stating, as faithfully as we may, his case. Our words may be not as good as his; but change is often restful.

In the world at large, matter and energy (so Spencer points out) are constantly passing from one configuration or arrangement to another. As this ceaselessly takes place, particular things,—suns, systems, planets, continents, forests, plants, animals, men, societies, mental states—appear and pass away. If now we try to look over the whole range of the vast process thus presented to us, we observe that what happens can be reduced, in its larger outlines, to *two* opposed special processes, which more or less rhythmically take each other's place in any given part of the world, according to the prevalent conditions that the relations of this part of the world to the rest determine. One of these processes occurs when bodies collect more closely together, cool, condense, contract, solidify, stiffen, harden, while the energy that they formerly contained is, in part (often in very great part),

lost, being spread out as radiant energy over vast spaces, or conducted away to other bodies. Wherever such processes of "integration" predominate, there occurs what we shall call evolution. The other process occurs when bodies get expanded, liquefied, vaporized, evaporated, scattered, sundered, widely distributed. This process, wherever it predominates, constitutes the primary feature of what we call dissolution. It can occur only when into a system of bodies energy is introduced (by radiation or otherwise) from other systems, or when collisions, or similar events, lead to distributions of energy which involve local heating, expansion, and the like. Our main attention is to be devoted to the one of these processes which is called evolution.

The gathering together, the condensation, the contraction, and the hardening, of masses of matter, may go on uncomplicated by other processes. So it is, for instance, when vapor condenses and falls in drops on a rainy day, or when an asteroid is formed (if one is so formed), by the condensation of a mass of cooling material of nebular origin. But sometimes, while this uncomplicated or "primary" process of evolution is going on, there also occur "secondary" processes, due to the fact that one part of the mass which as a whole grows denser, is not placed or influenced in the same way in which another part is placed or influenced. Thus, the outside of a cooling mass may have a crust form upon it, while the inside is still liquid; the crystals which form as an oversaturated solution cools, may gather at the bottom of a vessel, while the top remains clear liquid; and so on indefinitely. It is these "secondary" changes which are responsible for what we usually regard as the most important phenomena of evolution. That the secondary changes can become so important as they do become is due to the fact that, as masses of matter condense, they often form clumps which are in an intermediate state between the stage of absolute hardness or solidity on the one hand, and the state of an absolutely free internal mobility of the parts of the mass on the other hand. A somewhat viscous body is more or less plastic to changes which are impressed upon it. But, on the other hand, it is able to retain for some time the traces of such changes. Examples of "plastic bodies" of this general type are numerous. Our planet itself, as a whole, is such a "plastic body." Its crust is neither unchangeably hard and solidified, nor yet so soft that the traces of what has happened to or in this crust, easily pass away. The human brain, "wax to receive, and marble to retain," is a peculiarly complex instance of a plastic body. Whatever happens to its sense-organs, may impress it, and normally does so,—so delicately yielding are its minutest structures. Yet it is as retentive as it is impressible. A body can possess some degree of this plasticity only when it is not too dense and stiff in structure, and when it consequently contains a good deal of molecular energy; while, at the same time,

it must be stiff enough to resist strain to such an extent as is needed to enable it to keep the traces of what happens to it.

Now, especially in the case of the plastic bodies, the "secondary" changes aforesaid (changes which go on, indeed, chiefly when condensation predominates in the region of the world which is in question, although these changes are not mere cases of condensation), follow a law of the following type:—

(1) If the parts of any large body are at any moment as nearly *alike, in some specific respect, as they then can be* (*e.g.*, if they are, through the action of some cause, made for a moment as nearly as possible of the same temperature), then, unless the causes which especially determined the occurrence of just this state persist, it is certain that this relative "homogeneity" will prove "unstable." That is, a large body, if it be for a time of the same temperature through and through, will cool unequally in its different parts; for the different parts will be differently exposed to the surrounding world. In consequence, it will be a general rule of an evolutionary process, that the energy which is passing out of the various parts of a system will pass at various rates, while the condensation will proceed also at various rates in the different parts concerned, so that there will be a constant tendency of the evolving mass to develop within itself more and more differences. If the mass in question were a gas or a liquid, the results of this inner differentiation would be lost as fast as they appeared, since nothing would there be abiding. But if the body in question, or the mass of bodies, is in a plastic condition, the results of many or all of these successive differentiations will be retained in such forms as permanent shells, rinds, and crusts; or as wrinkles, furrows, variations of internal consistency of structure; or as specially differentiated types of movement; or as habits of a brain, as customs of a society,—and so on endlessly.

(2) Meanwhile, in its relations to the surrounding world, the differentiating and plastic mass, as it thus ages, will react by its various structure and consistency, upon the play of the external forces which impinge upon it. As the sand bank, once formed, deflects the very stream that deposited it, so the differentiating plastic body, as its parts grow more various, will in its turn render more various the new influences to which it is subject. The resulting "multiplication of effects" will be cumulative, and will tend more and more to the differentiation of the plastic body. And so one explains how a planet, first liquid, and of nearly equal heat throughout, gradually complicates its structure as it cools. Each new differentiation of its crust is retained by this plastic body as it slowly grows more solid; and these traces of past differentiation react upon the influences of air, sunlight, ocean, until the climates of deserts and mountain ranges, of seashores and of the interiors

of continents, become more and more various. Equally one explains, in Spencer's opinion, why an organism, a human brain, or a social order, shows, up to its limits, a constant increase of variety in its structure and in its functions.

(3) But progressive differentiation is not all that results in the course of this secondary evolution. The energies within and about a plastic body, as it slowly integrates, tend not merely to the formation of a confused variety, but to the evolution of order amidst the confusion. For, as Spencer insists, there are forms of energy which act like a stream of water, or like a current of air, or like a common and pervasive social tendency. These forms of energy are to be considered as groups of "like forces." They will always be present when a plastic body is subject to secondary evolution; since all the forms of fluid action, some of the forms of radiant energy, the gravitation due to the neighborhood of large masses, etc., are found wherever bodies are undergoing differentiation. Now these more massive forms of energy will move or will transform "like" objects "in like ways," and "unlike" objects "in unlike ways." The results will be the sort of "segregation" (*i.e.,* of sorting) which one sees when light dust is separated from heavy dust by the wind, or when light sediment is separated from heavy sediment by the action of streams and of gravity, or when the approach of a magnet segregates iron particles from a confused aggregate, or when men of a roving disposition are segregated from home-staying folk by the exciting attraction of some newly discovered country or gold mine; or when the soldiers go together to the war, leaving wives and children at home. To this general factor, endlessly complicated in its working by the conditions of organic or of social structure, Spencer attributes the fact that the plastic bodies (subject as they are not only to forces which diversify their parts and activities, but also to forces which tend to group like objects and parts together, and to sunder unlike objects and parts), tend in the long run to attain what he calls a "definite" structure and arrangement. A "definite" structure is one wherein the outlines are clear, the parts divided by sharp boundaries from one another, and the whole not only differentiated, but arranged in orderly fashion. This "segregation" process may be viewed as a special union of the general process of condensation or of "integration" upon which the "primary evolution" depends, with the process of differentiation itself.

(4) As a consequence of the processes thus described, evolution in the cases where it is both primary and secondary, has a character which may be summed up as follows: Evolution is the consolidation of a mass of matter, attended by a loss of some of the energy that this mass contained; while, as this consolidation takes places, both the matter concerned and the energy

which it still retains, pass from a state in which there is little firmness of structure, little orderliness of arrangement, little sharpness of contours, and much inner resemblance of part and part, to a state in which there is great firmness of structure, much orderliness of arrangement, much sharpness of contour, and much inner variety and difference of part and part. This whole process, as Spencer insists, is due to the fact that as the mass concerned loses some of its energy the different relations of the consolidating aggregate, being differently affected by the surroundings, tend to grow more and more unlike, while the more permanent forces that play upon the whole tend to sort out the parts of the whole, and to dispose them in more or less sharply sundered layers or sections; and while, too, in case the mass in question is a sufficiently plastic body, it not only undergoes these changes, but as it ages, preserves the traces of former changes, so that the latter become the foundation of a cumulative increase of former tendencies.

The evolutionary process thus defined must have its limits in case of each limited mass of matter. When these limits are once reached, the no longer plastic body will be in such equilibrium with its surroundings as to resist, by its inner consistency of structure and of movement, such changes as these surroundings are able to bring to pass in it. This state of equilibrium, however, will not be everlasting. The once plastic body, now incapable of further organization, will finally meet conditions to which its structure is not adapted. Forces, such as attrition, collision, and the like, will play upon it and destroy it. Dissolution will succeed evolution.

IV.

Such is, in outline, Spencer's general view concerning the character and causes of evolution, and concerning the place of evolution in Nature. A doctrine of such generality and inclusiveness could not be stated without requiring from its author an exposition of many other fundamentally important theses. The theory appeared upon its face to supplant any theological account of the origin of natural phenomena. Hence it was necessary to make explicit the author's attitude towards religious problems. This undertaking, in its turn, demanded the statement of a theory of knowledge. The result of these requirements was the section of Spencer's *First Principles* which dealt with "The Unknowable." On the other hand, if the general doctrine was to be applied to psychological phenomena, a theory of the relations between mental and material processes was required, so far as these relations in Spencer's opinion belonged to the realm of the "knowable." Furthermore, a summary account of the type of mental evolution was needed in order to enable one to compare this type with that which the general formula described. This need was met by Spencer's interpretation of mental life as an "adjustment of internal to external relations,"—an

interpretation which, abstract as its formulation was, has proved of no small service in directing the course of subsequent psychological inquiry. When, in addition, the general formula of evolution was to be applied in the sociological field, more special theories of the various types of social phenomena were needed. And here Spencer's doctrines as to the origin and evolution of religion, and his analyses of the militant and industrial types of social evolution, were the results of efforts to meet this requirement. Finally, the formula had to be applied in the region to which it appeared the least adapted, namely, in the region of ethics. While Spencer, conceiving ethical activities in terms of the tendency towards individual and social "equilibrium," was able to bring to pass various connections between the type of change which he attributed to a plastic body undergoing secondary evolution, and the type of change which is to be observed in character and in conduct as men's lives harmonize and consolidate, his ethical theory is much more the comment of an old-fashioned English Liberal upon modern social conditions than it is a new result which evolutionary science contributes to human knowledge. Yet in all these regions of inquiry Spencer was led to special theses which stand side by side with his statement of the formula of evolution, and so constitute parts of his contribution to philosophy. Most of all, however, he himself felt that the formula of evolution was his most important contribution to the "unification of science."

When we attempt to estimate the value of the system of ideas which we have thus sketched, it is well at once to lay aside certain controversial tests by which Spencer's opponents have altogether too often sought to try him. In the end, a system of this sort must be judged in the light of what it tries to accomplish, and not in the light of considerations which are foreign to it. Thus, for instance, as myself an idealist, I find myself profoundly at variance with Spencer's theory of knowledge, and with his doctrine of the Unknowable. Yet, viewing the man historically, I have to see that his concern with the problem of knowledge was, comparatively speaking, of incidental importance to him; that he never attacked the problem with any very serious and reflective interest in finding where the problem lay; and that his elaborately stated analyses of "The Universal Postulate," of the "Theories of the Metaphysicians," and of the "Relativity of Knowledge" had their place in his exposition merely as conscientious but uninstructed preliminary efforts to clear the way for quite other considerations, in which he *was* positively interested. Otherwise, these discussions of knowledge and being expressed his classic limitation to certain very simple intuitions,—the wholesome, straightforward intuitions of an English Radical, who, having early seen that we *can* know about natural causation, but cannot know anything about theology, and that we *can* know our rights and our duties, but cannot

make out what it is that interests some people in Plato, in Kant, and in all such speculators,—henceforth reflects upon ultimate problems only for the sake of bringing to sharp expression the beliefs that he never learned to question, or to analyze.

On this side, then, Spencer's limitations are as obvious as it is unfair to make one's judgment of him dependent upon them. What he undertook to do was to reduce to unity certain aspects of the world of empirical facts. That his effort to do this turned upon fundamental ideas which he was never able critically to scrutinize, is of less importance in estimating the value of his principle formula. The real question in case of Spencer is, How far did he help people to understand evolution?

In trying to answer this question, we must again beware of making our judgment turn mainly upon his tendency to apply formulas derived from material phenomena to the description of mental and moral processes. Whatever our view of the nature of things, we all must admit that, since human mental processes are associated with the functions of material organisms, it is useful, for certain purposes, to approach the natural history of mind from the physical side, and to describe psychological processes, so far as that is possible, in terms of their neural and motor expressions and accompaniments. Hence, if anything general can be said about the evolution of my body, that will give me some propositions that I must use in describing the evolution of my mind. A true idealist fears least of all such use of physical formulations as an aid in psychology. For he knows that when you are studying phenomena, the best way to vindicate the sovereignty of reason in the world is to try to describe, in the most exact and orderly way that you can, the lawful connections between mental and material phenomena. The closer and the more exact you show such connections to be, the nearer you come to illustrating the reasonableness of things in the order of Nature. Moreover, since physical phenomena are more describable than are mental phenomena, natural science approaches the latter through the former. Hence whoever regards the evolution of mind as an incident of some physical process of consolidation or of mechanical differentiation, offers us, of course, no ultimate truth about the inmost nature of being; but he also asserts something which no idealist, who recognizes what the business of human science is, should regard as in the least inconsistent with a spiritual interpretation of reality. For, if such a formula is true of the phenomena of matter and mind, it will remain true precisely of—phenomena. Now, Spencer's formula was intended to hold true of phenomena only. Furthermore, that Spencer's business, as a student of phenomena, was with "mechanism," in the general sense, rather than with "teleology," I also fully believe. He ought not, therefore, to be condemned merely because he un-

dertook to conceive evolution in mechanical terms. He would have been false to his just philosophical purpose if he had conceived of it otherwise.

The fair question in regard to Spencer is, then, this: "Is his 'unification' of the purely phenomenal processes of evolution a generalization at once sound and enlightening?" This is the question upon whose true answer his main value for philosophy depends.

The answer to the question is not simple. In favor of Spencer's formula, as he states it, stands the unquestionable fact that the transformations of energy, in the physical world, are all of them, so far as we can now see, apparently instances of a single describable process, which, as a phenomenal process, is invariant in type, whether it takes place in stars or in plants or in poets. This process the modern doctrine of energy, which was very incompletely developed when Spencer began to work out his ideas, has undertaken to formulate in *two* main propositions, of which one deals with the *permanence of the quantity* of the energy of any closed physical system within which such transformations take place, while the second proposition defines the *direction* which the transformations of energy take in a given system, under given conditions (as, for instance, when heat energy tends to pass from a hotter to a colder body). It is unquestionable that any evolutionary process which takes place must exemplify both these principles, but must especially illustrate the second of the two. For the second, having to do with the directions which types of change follow, defines what are, in general, and on the whole, *irreversible* series of transformations of energy, so far as the total systems concerned are taken into account. And no characteristic of the evolutionary processes is more obvious than the fact that, in all the important cases, they also are of an irreversible type. An organism ages, but cannot return to the type of its own early condition. It undergoes dissolution, but never grows young again. There is, then, no doubt, an universal formula, which includes all the evolutionary processes, in so far as they have any describable physical aspects whatever; and this formula is at least in part furnished to us by the theory of energy.

But the general theory of energy, taken by itself, is too wide in its application to give us any physical definition of what distinguishes evolutionary processes from those of the type of dissolution. Spencer accordingly singles out, as his evolutionary processes, those instances in Nature where *consolidation* predominates. Such processes go on, as instances of the second principle of the theory of energy, wherever a system whose energies are upon higher levels than are the levels of the energy of its surroundings, is on the whole losing what Spencer prefers to call its "contained motion." But, as Spencer sees, the most of the evolutionary processes, and in particular the organic processes, involve something which is quite different from

mere consolidation. He prefers to speak of this other aspect of the processes in question as the "secondary evolution" of the plastic bodies. But hereupon appears one of the most obvious difficulties of the doctrine as stated. In case of organic evolution, consolidation, in the main, appears, *not* as a primary feature of this sort of evolution,—a feature to which the differentiation of organs is but an incident, but as itself a comparatively incidental feature, while on the whole, the very reverse of consolidation now predominates. In general, organic evolution involves the *taking in of energy from the environment,* and the consequent presence of various anabolic processes which are, in type, the reverse of the consolidations which take place when bodies cool, stiffen, and grow harder. Similar assertions can be made as to social evolution, when the means of communication, the high training and nutrition of individuals, the physical motives which work against the crowding of masses in single rooms, and so on, tend to introduce more movements and wider separations with the structure of a society. It is indeed true that, in all such cases, there are various "integrations" which Spencer can easily point out, which accompany these processes of increasing mobility and expansion. Tissues harden, cities grow bigger, crowds in theatres grow more numerous, at the same time when the structure of the organisms in question, or of the social groups, also shows many signs of absorbing new energies, and in so far of growing *less* consolidated in its internal structure. But it is only necessary to consider how the sun's heat is the supporter of all the organic evolutionary processes on the earth's surface, in order to see that, in the organic world, the absorption of energy and the consequent tendency of masses of matter to assume a *less* consolidated structure than the structure which characterizes their immediate surroundings in the inorganic world, together constitute, on the whole, the predominant feature of evolution in this realm, while the consolidation which bones and horns and hardened skin and crowded cities exemplify is rather the subordinate feature of the evolution of the living organisms.

If this be so, how can evolution be described as a *single* process, of which consolidation is the primary, while what occurs in the plastic bodies is the secondary aspect? Have we not rather *one* process in the inorganic world when the sun, losing heat, shrinks, and *another,* and relatively opposed process, in the organic world, when the radiant energy of this very sun, caught by the earth and the air in spring-time leads to the manifold processes of expansive life which then occur, as the climate grows warmer? One of these processes is predominantly a shrinking, the other a swelling. Or is it well to say: Evolution is primarily a process of the loss of energy, and so of consolidation, but secondarily (in plastic bodies), a process which includes much absorption of new energy and much assumption of *less* con-

solidated structure on the part of matter? Do I evolve when I primarily shrink, but secondarily swell? If so, what is my evolution,—the shrinking or the swelling?

Spencer has ready his answer, partly, no doubt, in the just-mentioned examples of consolidation occurring (as one part of the life-process) in many organisms. He may add, also, that *unless* the sun were shrinking, the living organisms would not get any new energy to absorb. Hence, he may still insist, the shrinking is the " primary," the expanding aspect of the anabolic processes of living things is the " secondary " aspect.

But one answers: " Am I aided in understanding evolution as a single process, by thus merely coming to see that it is rather a complex of mutually opposed processes? " I should indeed be aided by just such an insight if Spencer told me wherein lay the *unity* of these opposed processes when they together constitute evolution. But he does not tell me this, except in so far as he shows me that both kinds of processes, the shrinking of the sun and the swelling of the living matter, are consequences of the all-pervasive energy-process. But that energy-process includes dissolution as well as evolution. Wherein am I then yet wiser as to just what constitutes evolution?

Again, to say that the solar system as a whole is steadily losing energy by radiation, and is in so far " integrating," while the heating of the earth's surface by the sun's rays is only local,—this is not to show me that the first of these processes is a primary aspect of evolution, while the other is only the secondary aspect of evolution. For Spencer's formula seems to say that *all* evolution is first (and unconditionally) integration, while, sometimes (conditionally), evolution is also the secondary evolution of the plastic bodies. But what I seem to find is that *not* all evolution is integration, since secondary evolution often means the very reverse of integration. In vain does one add: " But the secondary evolution is a local incident; the primary evolution is more widespread." I was not asking to learn what was local and what not. What I was promised was a single consistent formula for the general description, and then for the special types of the process of evolution. I can therefore indeed see that, if *all* evolution is *a,* while, *in addition, some of it* is *not only a* but *also b,*—then the unity of the formula is kept, in that " primary " evolution, which is *a,* is a genus, whereof the *a that is b,* viz., secondary evolution, is then a species. But what I find instead of this is that primary evolution is indeed *a,* while secondary evolution is in large part *not a,* but the very reverse of a. Where, now, is the unity of the formula?

One fears, then, that this is so far the main result:—Evolution is a consolidation, except in those highly important cases where it is an expansion. Often it is both.

Is this result contradictory? Not at all. Many a process keeps its unity by precisely such an union of opposing tendencies. But the formula is so far simply unenlightening, because it does not tell me wherein this unity lies.

Let us pass to the secondary evolution considered in itself. It involves two great features: Differentiation, and the increase of definiteness through segregation. The differentiation is a cumulative process, due to the fact that a plastic body keeps the traces of what has happened to it, and so constantly prepares a basis for new varieties of effects to be produced upon its various parts. The segregation is due to the sorting types of forces, such as were before exemplified in our summary.

Now we have here again two types of processes which are often opposed to each other. The differentiating forces of erosion break off great rocks, and also smaller particles, which so far confusedly differ from one another as a glacier carries them down the mountain valley. Later on the mountain torrents and later still the rivers of the plain, sort out the various kinds of sediment. The subsequent mud-deposits, stratified and set in order, present less appearance of heterogeneity than would the mass of unaltered glacial débris. Nature thus smooths over rough outlines, arranges "like" things together, wears away varieties, so that sharp contours appear; in brief, reduces as well as increases varieties. It is so in society. Circumstances differentiate men, and the "touch of Nature" makes them one again. My mind differentiates as I learn, and simplifies as I come to understand. My conduct is more heterogeneous when I am learning to dance than it is when I find out how to dance smoothly.

Now one, of course, need not tell Spencer all this. He knows and repeatedly illustrates it all. Nor need one talk of contradictions. A true process of evolution no doubt unites opposed tendencies. But what one wants to know is, *What principle, in any given case, gives the opposing tendencies that unity?* This is what Spencer's account does not tell us. Segregation tends, in certain respects, towards a reduction of the degree of differentiation. What constitutes the true evolutionary union of these two processes?

In sum, what one learns seems to be that, in general, the evolution of the plastic bodies involves increasing differentiation, except where differentiation is diminished, and increased segregation, except where the incident forces mix things. Now, all this is unquestionably true; but does it tell us how to distinguish the true evolutionary *combination* of these opposed tendencies from that combination which leads towards dissolution?

The vagueness of the Spencerian description of evolution renders it possible, of course, to conceive the formula so interpreted as to fit any special

case that may arise. But what one misses is any guide, in the formula, for the precise definition of types of cases *in advance of such special adjustments.* Any permanently and positively useful generalization, in a field like this, must be such as to define for us, not merely something abstract enough to be true whatever happens, but a more or less complete and exact *series of ideal cases* to which the formula can be deductively applied, in such wise as to show how the predicates used in stating the generalization are to be specified to suit each of these ideal cases. The law of gravitation, the theory of energy—these are not formulas such as: "All bodies tend to approach one another," or "Everything changes." But they are formulas that can be applied, deductively, to predict in detail the characters of any one of an infinite series of ideal cases (such as planets moving about suns, masses of gas cooling, etc.). Now, nobody expects, as yet, any mathematical formula for evolution. But just because every case of evolution is obviously a case where mutually opposing tendencies somehow balance one another, and combine into higher unities, the requirement of the situation is, not that the philosopher should tell us (truly enough) that evolution involves both shrinkings and swellings, both mixings and sortings, both variety and order,—but that he should show us *how* these various tendencies are, in the various types of evolutionary process, kept in that peculiar balance and unity which, each time, constitutes an evolution. This is what Spencer seems not to have done. He was quite right in thinking that a mechanical theory of the types of evolutionary processes is a needed scientific theory. For evolution, in the phenomenal world, must be reduced to physical laws. His great merit it to have attempted such a theory at all. He aimed at great things in a serious and frank and straightforward way. He stated one notable problem for the coming age. And to have done even this is a great merit.

In sum, Spencer appears as a philosopher of a beautiful logical naïveté. Generalization was an absolutely simple affair for him. If you found a bag big enough to hold all the facts, that was an unification of science. If, meanwhile, you were ready to present a beautifully ordered series of illustrations of your theory, this showed that your facts themselves were conceived with a due respect to their own orderly theoretical unification. But orderly exposition, which Spencer always had at perfect control, is not necessarily the same as the perfection of one's theory. The business of a theory of phenomena is the arrangement of systems of facts in ideal serial orders, according to concepts which themselves determine both the ordering of each series and the precise relations of its members to one another. Spencer's theory of evolution does not determine the relations of the essential processes of evolution to one another, does not define their inner unity, and

does not enable us to conceive a series of types of evolutionary processes in orderly relations to one another.

Yet, as one may reply, he was a pioneer. This is true. His value as such a pioneer has still to be seen in the future of thought. His beautiful straightforwardness of personal character, his noble independence of spirit, his loyalty to what he conceived to be his task,—his humanity, his advocacy of rational social and international peace and liberty,—these things compensate for much imperfection in the result of his philosophy. His demand that the evolutionary concepts shall be unified, remains a permanently inspiring logical ideal which will bear much fruit in future. His service as a teacher of his age will never be forgotten. His limitations have their own classic finish of outline. His place in the history of English thinking is significant, and secure.

THE FUTURE OF ENGLISH VERSE

HENRY NEWBOLT.
LONDON

OF the future of English verse we know nothing, and we can know nothing: the wind bloweth whither it listeth. But I have set these words at the head of my paper as an answer to a challenge, a counter-blast to an opinion which I have heard of late echoing in various directions. It was during a visit at Cambridge that I first encountered it and I have ever since thought of that university as the home of lost minds and impossible heresies. I was talking with a memorable scholar and poet, the late Mr. Frederick Myers, when the trump sounded. "There is no future," he said, "for English verse: English poetry has come to an end." I suppose I expressed astonishment or dissent. "Yes," he said, "blank verse is worked out, and the rhymes have all been used up. The only one left was *heaven* and *Devon,* and now that has been taken: there are no more new ones."

The effect of this alarming opinion upon my mind was reinforced shortly afterwards by a discussion in the press upon the merits or demerits of Mr. Stephen Phillips' blank verse. I became aware that the majority of those critics who review poetry in the English press are firmly of opinion that it is an offence against literature to use any rhythm which has not been used before. This is an under-statement of their position, for they seem to be themselves so little observant of the work of the old masters they venerate as frequently to condemn for novelty an effect merely reproduced from the greatest models.

We are thus in a doubly hopeless position; those who follow Mr. Frederick Myers forbid any repetition of the past; while those who follow Mr. William Archer still more strenuously forbid anything except a repetition of the past.

I have named Mr. William Archer for two reasons; first because he has for some years past taken a leading part in the criticism of English poetry, and especially in the controversy to which I have referred; secondly, because I know from a happy experience that he is one of those rare critics to whom reason is dearer than their own reputation for omniscience; one whose judgment may have limitations, but his good humor never.

We may, then, fearlessly go forward on our campaign against these unprogressive opinions, secure that whoever gains an advantage, there will be no methods of barbarism and no regrettable incidents on either side.

I am myself no critic; I have little learning in this matter; and if I venture to put forth my own opinion, I do so rather to test than to propagate it. It is briefly this; that English verse will at any rate not come

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to an end because there is no possible future before it; on the contrary, it is a mine with more than one old seam unexhausted and a number of new seams almost unopened, though here and there we may detect the shafts and pick-marks of past centuries about their approaches.

One of the old seams has been known for ages by the name of blank verse. It yields perhaps the finest and most solid metal, and deserves to be separately described. To any but a very intelligent and cultivated audience I should not venture to suggest that blank verse is not the simplest thing in the world. As Mr. Bridges has said, "Most 'lovers of poetry' merely love sing-song: *ritum ritum ritum* is rhythm to them, and anything which will not go *ritum ritum* is harsh." The late Lord Tennyson, in a passage quoted in the Second Volume of his life, speaks even more feelingly on the point:

"The English public," he says, "think that blank verse is the easiest thing in the world to write, mere prose cut up into five-foot lines. In a blank verse you can have from three up to eight beats, but if you vary the beats unusually, your ordinary newspaper critic sets up a howl. The varying of the beats, of the construction of the feet, of the emphasis, of the extra-metrical syllables, and of the pauses, helps to make the greatness of blank verse. There are many other things besides . . . but few educated men really understand the structure of blank verse."

One might perhaps have thought this a little severe; but Lord Tennyson, though a poet, generally knew what he was talking about, and in the controversy of which I have already spoken his opinion received a striking confirmation. This is what Mr. Archer wrote in a review published in the *Outlook* of a recent book of verse:

"I had read 'Christ in Hades'" he says, "some years ago, and had found my pleasure in it seriously marred by the length to which Mr. Phillips carried the modern trick of ignoring accent, or, if you prefer it, bestrewing his iambic lines with trochaic stumbling-blocks. These stumbling-blocks he has not removed from 'Christ in Hades,' but they are much less frequent in other and presumably later poems; and in any case he has now proved his right to a few caprices. None the less one must marvel that he should be capable of his occasional eccentricities. I am aware that he is merely following a tendency of the time, and that several other poets of real ability make a practice of slighting or deliberately misplacing accent. But the source, and still more, the justification of this tendency, I am yet to seek. Is it a mere obstinacy of conservatism to protest that to my ear the syllables: 'O all fresh out of beautiful sunlight' do not make a blank verse line at all? The natural accent—the accent demanded by the meaning—falls on 'O' and 'fresh' and 'sun'; the metrical accent falls on

'all' and 'out' and 'light'; and what becomes of the iambic pentameter when in three out of the five feet the natural accent and the metrical accent clash?"

Up to this point Mr. Archer has been hitting out freshly, but in the following paragraph he begins to show a little more caution.

"True," he continues, "the art of blank verse lies in judiciously relieving the monotony of the insistent iambic. But this clearly cannot be done by the mere haphazard introduction of foreign feet. There must be a limit to permissible departure from the normal and regular line, and in the great poets we find practically no uncertainty as to where this limit falls. Was there ever a poet before, say, 1890, who could endure two marked trochees in the first two places of a blank verse line? For Mr. Phillips, on the other hand, such a line as this has no terrors:

"Agamemnon bowed over and from his wheel."

To my ear this is a mere cacophony, and so it would have seemed, I have little doubt, to Shakespeare. . . . I shall no doubt be told that the ear of Mr. Phillips and some other young poets is cultivated to a point undreamt of by Shakespeare. Well, mine is not; and that is why such lines as the following set my teeth on edge:

Gentle and all *injured*. Art thou a God?
Realiz*es* all the uncoloured dawn.
The bright glory of after battle wine
And yearn*ing* as wide as is the world.

Read these lines naturally, and they are not verse at all, but prose; and good verse, to my thinking, is not prose read unnaturally."

This review would supply a Professor of Logic with many good examples of how not to argue. Take the phrase about the "*haphazard* introduction of *foreign* feet." The word "haphazard" is absurdly irrelevant; no one has either by theory or practice advocated a haphazard method; least of all Mr. Phillips, who I am convinced, in "Christ in Hades" intentionally variegated his metre, as one variegates a salmon fly, for the express purpose of getting the larger—I must not say the heavier—critics to rise at it. The word "foreign" is another false assumption; the so-called trochee is no more *foreign* to blank verse than the so-called iambic. We do not call a man a "foreigner" because he has a left leg as well as a right one. The next stage is the statement that "there must be a limit to permissible departure from the normal." This would be interesting if it could be proved, but all that is offered us as a foundation for the induction is the further assertion that "in the great poets we find no uncertainty as to where this limit falls." Unfortunately, we find something very different in the great poets, as we presently shall see. In the meantime observe the crushing appeal to prejudice in the allusion to the "ear of the young poets

cultivated to a point undreamt of by Shakespeare," and lastly the triumphant rhetorical question: "What becomes of the iambic pentameter?" To which the only possible answer is: "Whose iambic pentameter?"

For the iambic pentameter is in a worse plight than the iambic foot. The iambic foot is at least in the majority among the feet used in blank verse; it is, as I have said, the right leg, the leg that does the larger half of the work; but the iambic pentameter, in the strict sense, is seldom if ever found to form a greater part than thirty per cent of the lines of any poem. Mr. Archer has appealed unto Shakespeare, and unto Shakespeare shall he go. In a hundred lines of Hamlet there are but seventeen lines made up of five iambic feet. Among the extremely various forms of line used by this particular offender, who is a really disastrous Balaam to the critic's Balaak, we can easily find in any play instances of every separate cadence condemned as mere cacophony in Mr. Phillips; trochees in first, second, third and fourth places, and often two in the same line.

| Angels | are bright still, though the brightest fell.
The wind | sits in | the shoulder of your sail.
Peace, break thee off! | Look! where | it comes again.
In equal scale | weighing | delight and dole.
As needful in our loves, | fitting | our duty.
To be or not to be, | that is | the question.

As for poets before the year 1890, we may ask who wrote

"Universal reproach far worse to bear,"

and

"After forty days' fasting had remained."

if it was not John Milton; and who but Keats and Matthew Arnold wrote:

"Thea! Thea! Thea! Where is Saturn?"

and

"Come then, hear now, and grant me what I ask.

And which is the most cacophonous: Shelley with:

"Climbing the land, howled to the lashing winds"

or Swinburne with:

"Round the prow launched into the morning's lake"

or Tennyson with:

"Stumbled headlong, and flung him face to ground."

But these, and a dozen more from whom I might quote similar splendors, these are the great poets. And what we do find in them—if, that is, we take the trouble to read them—is this, that there is practically no *certainty* as to the limit of possible deviation from the normal. I say "possible" and not "permissible" deviation, because the great poets do not ask permission of anyone for what they do. Their methods, like other great natural processes, cannot be ordered, but they can be observed. Observation will show that if we are to divide their lines into five feet of two syllables each, the number of kinds of feet which they normally use is not confined

even to two, the so-called iambic and trochee. Even by the roughest measurement the feet are of four kinds, namely:

First, the foot in which the beat or stress is on the second syllable—this is the so-called iambic.

Second, the foot in which the beat or stress is on the first syllable—this is the so-called trochee.

Third, the foot in which there is a beat or stress on both syllables.

Fourth, the foot in which there is a beat or stress on neither syllable—in which, in other words, the stress is omitted, if we read the line in the natural way according to the meaning; though sometimes for our own comfort we make a conventional stress, especially where a line ends with a naturally weak syllable, like:

To ransom great kings from captivity.

A very convenient example, containing all four of these kinds of feet, is the first line of Matthew Arnold's "Sohrab and Rustum."

"And the fog rose out of the Oxus stream."

Here the first two syllables have no stress at all; the next two have each a stress; in the third foot the stress is inverted; and in the fourth and fifth it is normal.

And now, putting aside all other sources of variety, such as pauses, extra-metrical syllables, elisions and so on, we begin to catch sight of the infinite possibilities of blank verse. Mr. Mayor, who treats poetry as a branch of the higher mathematics, might put it in this way: You have four kinds of feet, each of which may occur in any or all of five places in the line; the total of different lines possible is therefore the number of combinations of twenty things taken five together; or about fifteen thousand five hundred. That is what, mathematically speaking, has become of the iambic pentameter.

But Mr. Archer's conservatism is entitled to put in a word here; these combinations cannot be all really possible in practice; there must be a limit to deviations from the normal. Obviously some of our fifteen thousand combinations must be abandoned without defence. Milton, by way of offering a target to the Archers of his day, once composed a line in which eight syllables out of ten have a stress upon them—

"Rocks, caves, lakes, fens, bogs, dens, and shades of death"

but not even Milton in his most waggish moments, not even Mr. Phillips in the ardor of youth, not even the mathematician himself, would use lines composed of ten syllables all stressed, or of ten all unstressed.

Still, what the great poets have ventured in the past gives great hope for the future. I have made, as an experiment, a little table taken from

the first half-dozen books which came to hand; they were Swinburne's "Atalanta," Tennyson's "Queen Mary," Matthew Arnold's "Sohrab and Rustum," Marlowe's "Tamburlaine," Canon Dixon's "Mano," and Mr. Bridge's "Return of Ulysses."

I find that in these works the number of different kinds of line used is very large; in Swinburne's play there are fifty types or varieties of line in a hundred lines; in the six poems the average is actually forty-four varieties per hundred lines; and if I had added Shakespeare, Milton, Keats and Shelley it would have been higher still. To complete the evidence, we should have to examine, as we cannot now do, the other sources of variety to which I have referred, and also the instances of magnificent lawlessness such as Marlowe's

"Mortimer! Who talks of Mortimer?"

which has one syllable less at the beginning than a good iambic pentameter should have. Probably the critics would prefer to read it as:

"O Mortimer! Who talks of Mortimer?"

Or, again, Shakespeare's eight-syllable line:

"Speak! Strike! Redress! Am I entreated?

Or Beaumont and Fletcher's with eleven syllables:

"What a full majesty sits in his face yet!"

where that last tremendous "yet" would, I suppose, in these timid days be shut off into a fresh line all by itself; a kind of separate confinement or padded cell.

And now, with regard to blank verse at least, we have kept these curious insects, the poets, under the microscope long enough. It is open to anyone to make observations of their methods and their produce with more patience and greater accuracy, and to found thereupon judgments other than mine. But I submit that until this has been done, the critics must allow us three conclusions; first, that the great poets have worked by ear, and not haphazard or by permission; secondly, that their work shows that there is practically no known limit to the variety of blank verse; everything is right if it is called for by the occasion and justified by the result; thirdly, that it is not for the critics to lay down rules for the poets, but to study them scientifically with at least as much attention and reverence as they would give to a bee or an earthworm. Once give up the theory that if the poet's and the reader's ear do not instantly agree, it is so much the worse for the poet, and we need have no fears for the future; it is still possible for every man to write in a blank verse different from that of his predecessors, expressive of his own personality and suitable to the subject in hand; but

both public and critics must abandon the theory that in poetry what they know is not knowledge.

If we now pass from blank verse to an examination of other kinds of metre, we are confronted by a problem which is not so simple, though it is perhaps more interesting. Here, too, it is variety and freshness of effect that the poet of the future will desire, but though he will have many metres at his disposal, in place of the single one which we have been considering, he runs also a much greater risk of being lost in the crowd of competitors; the instruments are more numerous, but they have been twanged by a thousand thumbs and some of the strings really do seem in danger of wearing out. Blank verse is the metre for great and sustained efforts; those who are impelled to make such great efforts are few and must always be few; of their works, too, only a small minority will survive in the memory and affections of men; whereas a single generation produces nowadays more lyric poets than the entire list of our dramatic and epic writers, and though Francis Bacon, we are told, composed all the literature of Elizabethan times off his own pen, not even Mrs. Gallup could produce the shorter poems of the Victorian Age.

Further, almost every lyric or stanzaic poem demands a different medium of expression to match the endless variations of mood and subject-matter. The first inquiry, then, which we naturally make is whether we have at our disposal the same artifices which have helped the writers of blank verse; and our inquiry will show that the use of these artifices is not only inadequate to the greater need of which we have spoken, but is attended by difficulties which do not exist in the case of blank verse. One of the first qualities—perhaps the very first quality—required in any verse, is that it shall be easily recognizable for what it is; that an ordinarily intelligent reader shall be able at first sight to read it in the manner intended by the author. But there is great danger that inversions or omissions of stress may so obscure or destroy a lyric metre as to make this impossible. The normal form of blank verse is so simple, so familiar and so easily carried in the head that it is always present to the mind's ear of him that reads, and a line, however irregular, will always be recognizable if, as in John Addington Symonds' definition, "it carry so much sound as shall be a satisfactory equivalent for ten syllables, and have its accents so arranged as to content an ear prepared for five."

But when we come to poems in more complex metres the reader would be, and in fact is, constantly puzzled by the introduction of feet in which the stresses are either inverted or omitted. Again, each of these licenses has in lyric verse a special disability of its own. In an iambic metre the inversion of a stress gives force to the foot, a trochee being stronger and more

spirited than an iamb; but in a trochaic or dactylic metre the substitution of an iamb for a trochee would not only be conversely a weakening of the line, but would in many cases take from it the trochaic movement which is its very life and essence.

Let us take an instance. In the volume called "Verses Written in India," Sir Alfred Lyall opens one of his most striking poems—the one called "The Old Hindu"—with these lines:

> "Here, as I sit by the Jumna bank,
> Watching the flow of the sacred stream,
> Pass me the legions rank on rank
> And the cannon roar and the bayonets gleam."

I draw attention to the third line: "Pass me the legions rank on rank." The writer's meaning was "The legions pass me"; he knew that to say "Pass me the legions" would be almost to put the imperative in place of the indicative—would be, in fact, dangerously near "Pass me the mustard" —but he knew, also, that the whole character of his metre depended on putting the accented syllable first. In good English the line should be no doubt: "The legions pass me rank on rank," but he felt that that line belonged to quite another poem,—an iambic poem something like this:

> "As I sit here by Jumna bank
> And watch the flow of yonder stream
> The legions pass me rank on rank,
> And cannon roar and bayonets gleam."

Not a bad kind of verse, but the fire has gone out of it; and so, having to choose between the natural order of the words and the strict metrical order of the syllables, Sir Alfred preferred to sacrifice grammar to sound, to please the physical ear at the expense of the intellectual ear. We may think that so spirited a poem could have carried off one weak line; but let us not make up our minds on that point until we have given as much thought to poetry as the author himself. In the meantime, we recognize that the danger he was seeking to avoid is a real one. How real, may be seen from the example afforded by Archbishop Trench's poem on the Alma, first published in the *Times* when the news of the battle had just reached England. It is a fine piece of poetry, written in whichever you please of two quite distinct metres, and faultily in either. It begins in a simple succession of trochees:

> "Though till now ungraced in story,
> Scant although thy waters be,
> Alma, roll those waters proudly,
> Proudly roll them to the sea."

The first three lines are strict; in the fourth—"Proudly roll them to the sea"—the word "to" has no stress, or has a conventional stress in-

stead of a natural stress. It cannot be said, however, to spoil the metre in any way so far; on the contrary, it does something to break the monotony of the rather hard "humpty dumpty humpty dumpty" movement. But the writer, whom we may allow ourselves to judge because his work is finished and can be estimated as a whole, because, in fact, our scientific observation of him is as complete as it ever can be—the writer was a fiery soul carried along by—shall we say?—a high-power automobile over which he had imperfect control. Half-way through his run he has begun to wobble as badly as this:

"Yea!—nor all unsoothed their sorrow
Who can proudly mourning say,—
When the first strong burst of anguish
Shall have wept itself away—"

These last three lines cannot possibly be read like the lines with which the poem began; they would, by the force of grammar, mean something quite different from what the writer intended. Let us try to keep the accent on the first syllable in each line; we get:

"Whó can proudly mourning say
Whén the first strong burst of anguish
Sháll have wept itself away—"

Impossible: it would be an interrogative sentence, and rather an argumentative one, too. No, the stresses must be omitted; and now observe what happens to this metre when two out of the four stresses are omitted in any line. It turns into a totally different movement:

"He has past from us, the loved one,
But he sleeps with them that died
By the Alma at the winning
Of that terrible hill-side!
Yes—and in the days far onward
When we all are cold as those
Who beneath thy vines and willows
On their hero beds repose,
Thou on England's banners blazoned
With the famous fields of old,
Shall, where other fields are winning,
Wave above the brave and bold:"

Any attempt here to keep up the original movement would bring us down to reading:

"By' the Alma át the winning
Of that terribúll hill-side."

No, the gallant author has mistaken his direction half-way through, and charged in true Crimean fashion into the wrong valley: *c'est magnifique mais ce n'est pas la guerre.*

These two poems, then, may, I think, be taken to show, not that our old

familiar lyric metres cannot be used any more, but that they cannot be used in any but the old familiar way; any attempt to vary their effects by artifices such as Milton and Keats used in blank verse can only end in disaster; for the aim of poetry is to be not only beautiful but memorable, and no one can be expected to remember a poem in which even the author has forgotten his metre before the end.

How, then, is the desired freshness to be attained? Frederick Myers, as I have said, thought that the stalemate of poetry was due to the exhaustion of rhymes and the ideas embodied in them; we have been told all that there is to tell by any possible combination of *doves* and *loves, dreams* and *streams*. And certainly from Edmund Spenser down to our own day there have been poets who believed that for the Defence of Poesie an armament of new rhymes was the chief thing needed. Browning is the greatest of these, and such rhymes as *consider* and *insect-ridder* or *scrappy* and *happy* undoubtedly were in their own place effective; but then they were most memorable precisely when they were least beautiful. Mrs. Margaret L. Woods, a lady who has herself written some stirring and delightful verse, has in the preface to her latest volume, "The Princess of Hanover," recommended boldly the more extensive use of Cockney rhymes and imperfect or eye-rhymes, which she maintains are, or ought to be, used by poets for the very reason that they are not true rhymes. "The ear," she says, "grows weary of the regular beat of true rhyme upon it, and welcomes the relief of a partial resemblance. . . . In that masterpiece of lyric harmony, Shelley's 'Ode to the West Wind,' there occur such rhymes as *sepulchre, atmosphere, even heaven given;* and the perfect use of these imperfect rhymes is an element in its beauty." Another distinguished writer on the same side is M. Charles Bonnier, whose charming little book on the French poets of the nineteenth century, printed a few months ago by the Clarendon Press, contains a most ingenious chapter on Rhyme. French verse, having no stress or accent, is entirely dependent on rhyme; and the constant use of perfect rhymes, even if the supply of them were adequate, would produce a noisy effect; the murmur of the poor little syllables lightly tripping in the line would be quite drowned by the clash of cymbals which ends each couplet. To lead off at once with a perfect rhyme is therefore, to a Frenchman, a kind of indelicacy, like asking a man to dine within two minutes of your first introduction to him. The poet of fine instinct will go about it more gradually; he will begin with a distant alliteration, which will attune the ear and prepare it to recognize the relationship of the succeeding sounds; then will come a procession of rhymes leading up from one so bad as to show only the merest glimmer of a likeness, to better and better ones, until the moment when at last the real rhyme appears, "unique and luminous."

That is the French way of putting it; an Anglo-Saxon would probably have described the process as a series of intentionally bad shots ending at the fourth or fifth attempt with one clean, ringing bull's eye. And certainly this is sometimes an effectual method of winding up an audience to the pitch of interest required.

My own belief is that rhyme has very little to do with the matter. I do not think the difficulties of rhyme have ever prevented anyone from writing as much verse as he wished to write—it might have been better if they had—nor do I believe that it is possible to invent any large number of new and tolerable rhymes. The expansion of English verse must be accomplished by the exploration and conquest of new metres; and my present purpose is not so much to explain how this may be attempted—for that is the business of the poets, not of their readers,—as to show how it has already been done by living writers, and to remind the reader that if their rhythms and cadences seem unfamiliar upon a first reading, it does not necessarily follow that these are bad. The authorities, of course, will tell us that they are bad; and no wonder, for when you have taken the trouble to write a book and classify all the existing metres on a principle of your own, and perhaps founded your reputation upon it, what could be more objectionable than the experiments of some upstart poet—some fellow called Milton or Shelley or Tennyson or Bridges—who writes a kind of verse that won't go into any of your pigeon-holes? The author of "Evans on Versification" pronounced a certain form of stanza to be "evidently unfit for use" in English; after that, how could one expect him to welcome a poem like Tennyson's "In Memoriam," written throughout in that particular form of stanza? I do not know what he said about it; let us hope he did not write to the papers asking indignantly, "What is to become of the iambic tetrameter?"

I do not think he did, for though he may for once have prophesied before he knew, he was a really learned and reasonable writer, and showed it by declaring that the more natural base of English rhythm is stress. I say "more natural" because for centuries another principle has been also in use among us, and is commonly supposed to be the governing principle of our verse; namely, the syllabic principle; the first thing most of us do in scanning a difficult line is to count the syllables on our fingers. The fact is, however, that to everyone but a few makers of authoritative books, the stresses in English are more important than the syllables, and the reason for this may be clearly seen if we look back into the pedigree of English poetry, which is a very curious and instructive one.

At the head of it stands Latin Verse as the Founder of the Family. Now, Latin Verse was written by quantity; that is to say, the syllables of all the words in the Latin language were divided into two classes only, long and

short, according to certain arbitrary rules. But the Latin language, which was older than Latin verse, was spoken or read by stress; for instance, the word "Trojanas" is by quantity made up of three equally long syllables (Tro-jan-as); but in reading, it consists of one stressed syllable between two unstressed, and is pronounced "Trojánas." The happy result of this is that a poem like Virgil's "Æneid," containing twenty-four thousand lines, all made on one pattern, with slight variations, is no longer uniform or monotonous when you come to read it, because any two lines, though made up of exactly the same longs and shorts, will often have their stresses in quite different parts of the line. I open my Virgil at random and find three lines close together in which the quantities are absolutely identical, thus:

Trojanas ut opes et lamentabile regnum
Sed si tantus amor casus cognoscere nostros
Instar montis equum divina Palladis arte.

The pattern is identical, but when we come to read them properly we find that the first has four (or perhaps five) stresses:

Trojánas ut ópes et lamentábile régnum

the second has five,

Sed si tántus ámor cásus cognóscere nóstros,

and the third has six,

Ínstar móntis équum divína Pàlladis árte.

Moreover, these stresses fall for the most part in quite different places in the line. The lines are therefore entirely the same in quantity and almost entirely different in stress; and for the Latin ear it was just this contradiction of the two elements which made the pleasure of the verse.

And now let us cease to be Latins and become the barbarians we really are. It is the fourth century of the Christian Era; the Roman Empire is breaking up; we who have come from the Thames, the Danube or the Rhine, we know nothing and care less about these artificial rules of long and short: we take the Latin language as we hear it spoken and read, and when we want to write verse what do we do? We imitate Virgil's lines so far as the stresses are concerned, but we break the laws of quantity without a pang: we consider our popular poet Commodian's line:

In talibus spes est vestra de Christo refecto

to be a perfect hexameter, in spite of its three howling false quantities, because its stresses are the same in number and position as those of Virgil's line:

Dardanidae infensi pœnas cum sanguine poscunt.

We have lost one of the two elements of the Roman's pleasure, but we have preserved the only one that matters to us.

But we are not the only heirs of the Roman Decadence. There are the Latins themselves, ruined and divided, speaking languages made of rags and tatters from the majestic Roman toga. What have they saved from the wreck of Latin Verse? Certainly not the quantity, still more certainly not the stress; for one of the main characteristics of their languages is the almost total absence of stress even in their common prose speech. No, these French and Italians have decided to make their poetry on a numerical principle; since it has neither quantity nor rhythmic movement it must be measured by syllables, so many to the line; and to this day their verse is, in fact, syllabic.

When we come to the fourteenth century, we find that in our own country these two lines of descent, the English and the French, have been united; stressed verse and syllabic verse have been joined together, and from the marriage has sprung the great and splendid dynasty of the English poets; for before Chaucer's time—that is, before the advent of the French influence—there is little or no English poetry in the modern meaning of the term.

The most curious thing about this union is that great as its success has been, the two elements have never quite settled down together; the English principle of stress has always struggled to free itself from the more rigid French principle of carefully numbered syllables. Our Blank Verse, which is legally bound to contain exactly ten syllables, is found in our greatest poets to have sometimes only eight or nine, sometimes eleven or even twelve. Our lyric metres are often very loosely written and admit lines with a syllable lacking, or with extra syllables hopping and skipping here and there; the tacit understanding being that so long as the rhythm is preserved, that is, so long as the stresses are sufficiently represented, a little illegality in the syllables will be winked at. Sooner or later, then, it was sure to occur to someone to ask whether this organized hypocrisy was worth keeping up; whether stress pure and simple might not be a sufficient principle for composing metres suitable to our language. To how many it actually did occur we hardly know, but Coleridge was probably the first to state the proposition in public. In the preface to Christabel he says, "I have only to add that the metre is not, properly speaking, irregular, though it may seem so from its being founded on a new principle, namely, that of counting in each line the accents, not the syllables. Though the latter (the syllables) may vary from seven to twelve, yet in each line the accents will be found to be only four." This preface is apparently one of the things the authoritative critics never read. Or perhaps it is, as Mr. Bridges has said, "too simple to be understood." Look at the simplicity of it; you set out to write a poem, say in short couplets; you put the words of your story in their nat-

ural order, with their natural pronunciation and stresses; you do not need to trouble yourself about iambs or trochees; anapœsts or dactyls are no more to you than anacondas or pterodactyls; when you have got four beats or stresses you have got a line, and you go on to the next:

'Tis the míddle of the níght by the cástle clóck
And the ówls have awákened the crówing cóck.

See what variety is attainable even in so plain a metre—

Is the níght chílly and dárk?
The níght is chílly but nót dárk.

These two lines have only seven and eight syllables each; but they have their four stresses, each as clearly as the first couplet with its eleven-syllable lines.

And observe that if Coleridge had wished to write in lines of five stresses instead of four, it would have run just as easily:

'Tis the míddle of níght by the cástle clóck, and the ówls
Have awákened the crówing cóck, and the mástiff hówls.
Is the níght chílly and dárk? The night
Is chílly but nót dárk: the stárs are bríght,

Here, then, is a rich seam in the mine of verse; and it would have been worked far more than it has, but for an unfortunate failing on the part of Coleridge himself. He began that wonderful poem "Christabel" with all his genius glowing round him; but not only did he never finish it, before he had gone many lines ahead he forgot even the principle on which he was working and wrote such lines as this:

From her kénnel benéath the róck
Maketh answer *to* the clóck,

which, if read naturally, have only three stresses each; to make them four-stressed lines you must give a conventional stress to "from" and "to"; and there is your whole principle destroyed at once, for it is the stresses which ought to make the line, not the line to cause the stresses. This glaring inconsistency between the preface and the poem, between Coleridge's theory and his practice, has no doubt confused his readers and prevented them from understanding what he meant. However, Shelley, Moore, Matthew Arnold and others followed with poems written on the same principle, and now that the need for fresh metres is more pressing, others are resorting to it more and more. To get some idea of the power and range of this, which is virtually a new instrument, it is only necessary to read one or two pieces from the "Shorter Poems" of Robert Bridges; first a picturesque and imaginative poem called "A Passer-by":

Whither, O splendid ship, thy white sails crowding,
Leaning across the bosom of the urgent West,
That fearest nor sea rising, nor sky clouding,
Whither away, fair rover, and what thy quest?

then a reflective and pathetic piece, "On a Dead Child":

> Perfect little body without fault or stain on thee
> With promise of strength and manhood full and fair!
> Though cold and stark and bare,
> The bloom and the charm of life doth awhile remain on thee.

and, thirdly, a realistically descriptive poem called "London Snow":

> When men were all asleep the snow came flying,
> In large white flakes falling on the city brown;
> Stealthily and perpetually settling and loosely lying,
> Hushing the latest traffic of the drowsy town.

It will be seen at once that many of these lines are not only new in their rhythm, but are such as could not, so long as the words keep their natural pronunciation, exist at all in any other kind of English metre known to us. The occurrence of two stresses in immediate succession without any light or unstressed syllable between them, is by nature uncommon in English verse, which has mostly followed some sort of rocking or undulating movement, called in the books a "return"; and by using these successive stresses in a line such as—

> "Thy sails for awnings spread, thy masts bare"

the metre gains a new power of adapting itself more closely to its subject-matter. Similarly the occurrence of three or even four unstressed syllables between two stresses in a line like that which describes the snow—

> "Steálthily and perpétually séttling and loósely lying"

is very rare in verse, and brings something of the gravity and self-restraint of prose and of the speaking voice as contrasted with song. And to say this is to offer a great guarantee for the future of English verse; for modern poetry seems to need, in order that it may be able to express modern thought, a vehicle less lyric in feeling, more staid, more calm, more fit for the speech of strenuous narrative and high Philosophy. Walt Whitman saw the need, and overshot the mark in his hurry to reach it, but he came near, by his unaided instinct, to a music of the kind required; as anyone may see who will read to himself that most beautiful of all his poems:

> "A sight in camp in the daybreak gray and dim."

Browning, too, knew that his thought was too great to be carried by a verse of light and elaborate construction and rapid artificial motions; the swing of a strong man's walk in broad daylight was what he sought; and he only got it at the cost of grace. What might he not have done, say, in humor-

ous drama, if he had been able to write a verse like that into which Mr. Bridges has translated Terence in his play called "The Feast of Bacchus"?

> "What in Heaven's name
> Can be your object? What do you drive at? To guess your age
> You are sixty years at last. There's no one hereabouts
> Can shew a better farm, nor more servants upon it:
> And yet you do the work yourself, as though you had none.
> Never do I go out, however early in the morning,
> Never come home again, however late at night,
> But here I see you digging, hoeing, or at all events
> Toiling at something or other. You are never a moment idle."

From the Lyric to the Comic there is, Mr. Bridges says, nothing that cannot be done in this field of rhythm; and it is, perhaps, he concludes, not the least of the advantages of stressed verse that while it sounds as though it were easier than any other, it is in reality most difficult to do well. It is, however, being done well, and, having its roots in native soil, will probably continue to prosper. In any case it has sufficiently shown that English poetry will at least not fail because it has exhausted the possibilities of English verse.

THE HIGHER EDUCATION OF THE CENTRAL WEST

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THREE types of the American college or university, in respect to origin and control, are emerging: One ecclesiastical or denominational; one private or popular, springing from the people in its unorganized relation; and one State, arising from the people in its organized relation. These three types are not perfectly distinct. The ecclesiastical or denominational type may also be private or popular, and the private or popular form may also be denominational. Under the general law of the State a member of a certain church may found a university; it is thus made a private or personal foundation. If founded for service through the Baptist or Presbyterian Church, it is governed by a Board of Trustees of which the members are affiliated with the Presbyterian or Baptist Church, and is a denominational college or university. Again, an institution belonging for a time to one type may come to belong to another. Harvard and Yale were founded by and for the Congregational Church. Their special ecclesiastical relations have long since passed away. This transformation from one type to another may be so gradual that at certain times it would be difficult to affirm whether an institution were more denominational than private, or more private than denominational.

Than denominational, the popular and the State forms of higher education prevail more or less fully in different parts of the United States. In the older Northern States the private or popular college still predominates. In the older Southern Commonwealths it has an influence at least equal to that exerted by the denominational college. In the larger part of all the Commonwealths west of the Alleghanies the State institution holds a place superior to that of the denominational college.

The relations of the institutions of these three types to each other are in different conditions in the several sections of the country. In New England the relations are, on the whole, fixed, though developments in the University of Maine have been the cause of some disturbance during the last few years. In the older Southern sections, the State institutions dominate, and their leadership is commonly, though not always, admitted. In the Western Commonwealths, the relations are not fixed. Constantly subject to change, they engender discussion which, as the president of a State university has said to me, is sometimes " unworthy of a high-minded man." And yet such characterization is not to be commonly applied. The govern-

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ing boards of practically all the institutions of the higher education between the Ohio and the Sacramento are eager to discover and to put into force principles and methods which will make for the enlargement and enrichment of all the people, and not simply for the betterment of their own immediate constituency. Each, to be sure, is concerned for its own prosperity. It is thus that general advancement can best be secured; but not one of them would purchase its own growth at the cost of the wider good.

As the presence and power of the three types of institutions differ in different parts of the country, so also do they differ in different States of any one part. The relations of the University of Maine to the three other colleges of Maine are unlike the relations of the University of Vermont to the other college of Vermont. The relations of the University of California to the other institutions of California are unlike the relations of the University of Michigan to the colleges of Michigan. In certain Commonwealths, as Ohio, Wisconsin, Iowa and Indiana, a private and denominational college gained a secure place through general usefulness before a State institution was founded. In other Commonwealths, as Michigan, Nebraska and Kansas, the State institution held from the first in an administrative and educational leadership which it still maintains unchallenged. In Illinois and California personal foundations have recently been made, which have brought, among many other blessings, increased prosperity to the universities bearing the names of their great Commonwealths.

But among the hundreds of the colleges and universities which may be called Western has specially prevailed: to wit, a tendency to increase the power of State-endowed and State-supported education. This increase has touched the lower no less than the higher education, and the expense involved has been heavy and constant. But seldom does the American people complain of paying taxes for the support of education, provided it can be assured that the money is honestly collected and effectively expended. The amount of money which the State Universities spend every year is sufficient to give a sense of pride to every patriot, though of course the sum is a pittance compared to the millions which we appropriate to the building of a navy.

The State Universities of the Central West are each spending from $400,000 to $1,000,000 in an academic year, while, with a few exceptions, the more conspicuous of the private institutions are spending between $100,000 and $200,000. These and similar comparisons prove that advance has been made in institutions of each of the three types. The financial statement is at once an element of progress and an indication of progress in other than financial lines. The record for all colleges is indeed magnificent. But I suppose that relatively the greatest progress has occurred in the State

institutions. It seems that the people dwelling in the several Commonwealths of the Central West have determined that the higher, as well as the lower, education shall not be left to the occasional generosity of the philanthropist, be he ever so wise or so generous, nor to the zeal of a church, be that church as progressive as the Methodist or as widely conservative and as thoroughly committed to education as the Congregational or Presbyterian; they have determined that they, in their formally constituted and legally established capacity, they themselves shall constantly, and generously, and completely take charge of the higher education. This movement, too, is apparently only a part of the still wider movement which shows itself in vast socializing processes and industrial combinations and consolidations. The whole educational progress or regress moves to and fro in sympathy with all the tendencies of life and of living.

In the making of any adjustment or re-adjustment of the forward forces of the higher education in the Central West, it is easy to find the single principle which should prevail. That principle is the welfare of all the people, and not the people of one State only, but of all the United States, and not only of the United States, but of the world; their welfare, too, not during the present year or decade only, but through all the future. The old Utilitarian principle, the greatest good of the greatest number, and, one may add, for the greatest length of time, represents the only sound and defensible policy.

The first thing which occurs to one in considering the forces of the higher education in the Central West and their adjustment to each other and to all human conditions, is the great number of institutions for the higher education. One may, of course, exclude institutions which have a name but no real existence, institutions, too, which have the title of college or university which are doing the work of high schools. But even after these eliminations have been made the number that remains is still vast. In most of the Commonwealths of the Central West is found what is generally called a "College Association," a society made up of the colleges of the Commonwealth which by common consent are recognized as the best. The total number of such colleges in the Central West is about one hundred and fifty, a number which seems too large for the population. Multiplicity of colleges means colleges small in numbers of their students, and colleges poor in purse, and colleges poor in purse mean colleges inadequate in equipment and insufficiently manned; colleges small in number of students may do better work for this small number than colleges large in numbers may be able to do for the many; but certainly poverty and its necessary consequences are not the usual elements of collegiate strength and value.

But let it be recognized that the presence of many colleges has certain

advantages. Chief among these is the opportunity for local influence. The Chancellor of the University of Nebraska, who has served as a teacher in a small denominational college, Denison University of Ohio, as a teacher in a large university, Cornell, as well as the chief executive of Brown University, says out of his wide experience: "The average denominational college possesses three points of conspicuous and indubitable usefulness, in which neither the great State university nor the great private university can vie with it. Precisely the smallness and the numbers of these institutions which make them the sport of thoughtless heads, open to them a vast and unique mission. The little colleges dotting the country up and down are the inland recruiting stations for the learned world. By their aid a vast number of ingenuous youth, who, but for such lowlier light plants of science would receive only common-school education, beam out as shining stars in the firmament of learning. The *clientele* of every school, large or small, is mainly local. Young people of the vicinity see a near-at-hand college, hear more or less about it and its work, now and then meet students from it, and thus, little by little, become inspired to seek at it or elsewhere liberal learning. If only the few large teaching centres existed, this influence would be most narrow, whereas now it pervades the country. The power of this sort which the little college in your country or congressional district exerts in the regions about it is, in the course of years, immense. Besides the students of the smaller institutions who pass from them directly to the work of life, numbers who attend become fired with ardor for learning and press on to universities or professional schools, building up their mentality until they become members of the World's great Academy. This recruiting power of the local college is assisted by the low cost of living and the simple manners which prevail in it. To be economical is more fashionable at a small college than at the average large college."

The small colleges, as Dr. Andrews says, are forced to give "an instruction characterized by intensity and thoroughness within a restricted range. The very limitation of such a community is helpful to the opening of intellectual life, and, in certain lines, to its continuance. A youth studying amid a vast concourse of students, taking all sorts of studies higher and lower in diverse departments, is often bewildered and discouraged. So various aspects of thought, science, literature, philosophy and practice being crowded upon his notice, he feels himself too weak to grasp them or too insignificant mentally to make his educational effort worth while. If, on the other hand, the mental word as first presented to a young scholar seems comprehensible, not infinitely above and beyond him, the vision of it, instead of appalling him, lures him on. No doubt there are brilliant pupils whom such restricted initial vision of the thought-world harms. Assimilating

at once all the knowledge in sight, they think they will have mastered the truth when they have just begun, harboring a sense of familiarity in their mental attainments, when these are in fact extremely meagre. But those geniuses are so rare that this defect in small colleges does little to counterbalance the intensity and thoroughness to which I have adverted."

For better or for worse, for richer or for poorer, this vast number of colleges is here. They are a part of the problem. If they were not here, there would still be a problem, and perhaps a harder one than that which is now set for us.

In attempting to solve the problem of the mutual relation of the different colleges of the Central West, this obvious idea must be borne in mind; each institution should do that work which, by environment or endowment, or by its own historical heritage, it is best fitted to do. This work should be its primary duty. Other work which it is not so well qualified to do may represent a secondary duty.

There are three kinds of work which the State University is specially fitted to do: first, technical; second, advanced scientific or graduate; third, professional, excluding the training of clergymen and excluding the training of teachers. In the first kind is included all the work for the training of engineers, who serve society in the betterment of its physical and material conditions. In the second kind is included every form of research. A scholastic value of the highest significance for the progress of men and for the development of the forces of the earth and of the air. In the third kind is included the training of those to whom is specially committed the duty of promoting the personal rights and developing the personal powers of each individual.

There are at least three reasons why the State-endowed, State-supported institution should regard the doing of these three kinds of work as a primary duty. One reason is found in its expensiveness. The scientific studies and pursuits are far more costly than the linguistic, the historical and the philosophic. The library necessary for purely human studies is less elaborate than the laboratory necessary for the study of chemistry or of physics. Scientific experiment is the most expensive form of research. The professional study of medicine, with hospitals, and of pedagogy, with practice schools, represents a vast equipment and a large cost in administration. Such expense is so great that only the whole body of people, in their largest pecuniary relation, is able adequately to meet it. Any one of these three forms of education,—technical, advanced scientific, or professional,—the private university might be able to assume; all of them, a few of the oldest and ablest universities do take up and carry forward with great strength and to noble results; but in the newer States and the less well-to-do, in which so

many of the institutions of a well-ordered life are to be established at once, and supported continuously, the great cost of carrying forward scientific and professional studies makes this work a primary duty of the State institutions.

A second reason lies in the fact that such scientific and professional studies result in the widest possible service. They benefit every member of the community. Of course the study of Greek or of Hegel's philosophy benefits the whole community. But the benefit is usually less direct though not less real than the benefit conferred by mechanical engineering. Safe bridges, good roads, effective sewage, pure water, cheap and sufficient light, these results of science are a blessing to all. The skill of the physician and of the lawyer, the worth of the well-trained teacher, are a help to the whole community. It is fitting that all society, enriched by these advantages, should pay for them.

A third reason for the State institutions doing this scientific and professional work consists in the fact that these services are the least liable to stir up partizan and political feeling. It must be acknowledged, and acknowledged with a sense of sadness and of shame, that in certain Commonwealths, the State university is "in politics." In those Commonwealths in which the governors or regents of the university are elected by popular vote, the partizan relation is inevitable. In those Commonwealths, too, in which the Governor appoints the regents, and by usage is supposed to appoint them wholly or in a majority from his own party, the political relation is also inevitable. University teaching, which may be interpreted as being in opposition to the beliefs of the dominant party may therefore awaken opposition, and become the object of interference more or less troublesome. But though economic and industrial teaching may be more or less hampered, the work of the scientist is not subject to such conditions. There is no politics in Ceramics. Chemistry and Electricity are neither Republican nor Socialistic.

Such, then, are some of the works which it is the primary duty of the State University to do,—works which are of great cost, which are of common benefit, and which do not call forth partizan prejudice.

But there are also works which the private or denominational college is best fitted to do. The most important service of this character relates to religion. Other services there are to which I shall presently allude, but this service is first in its manifold relations. In the regard which educators have paid to the dogmatic side of religion,—and the dogmatic side is important,—they have partly forgotten its fundamental and absolute essence as an element and force in the educational process. For religion does represent the relation of man to absolute and ultimate being. Religion gives to the student, as to every man, the highest and noblest. To his intellect

religion offers the greatest being which he can apprehend; to his conscience religion offers a law-giver whose principles he is to hold and whose laws he is to obey; to his will religion offers a force, more or less known, more or less knowable, with which he is to associate himself, if in co-operation, for better, if in antagonism, for worse; to his heart religion offers a being, which, if regarded as impersonal, is to be worshipped. One may say that such a religion is remote from Christianity as preached in most pulpits. Such a remark contains truth. I maintain, however, that such principles are essentially Christian, and should therefore be made the basis of Christian teaching and influence in the denominational college. The denominational interpretation of essential Christianity defeats its own purpose. For one should never forget that the ordinary student has an affinity for principles. The Congregational or Presbyterian student has small regard for the five points of Calvinism; and the Methodist student cares little for the methods of John Wesley. He will make his own theology if one will give him the essential stuff; and the theology he so makes will certainly be a better theology for him than any which a teacher could impose on him. For such a theology has significance,—it has life and reality: it is life of his life, thought of his thought, and choice of his own choosing. Nothing is more valuable for the making of strong, fine and worthy manhood than the inevitable bringing of the student into close relations with ultimate reality, the God.

Such intellectual volitional, ethical contact is secured better in the personal or denominational colleges than in the college under State control. The private college is usually organized on the religious foundation. Its trustees are chosen with a more or less regard to religious affiliations; its teachers, though in the older colleges, seldom exerted on denominational grounds, are yet by presumption sympathetic with essential Christianity. The routine of each day begins with a chapel service, and Sunday is devoted to the church.

Yet it should be affirmed that the constitutions of most States allow a more definite teaching of religion in school and university than is usually given. Of course, one might cite the Constitution of Massachusetts, which goes much further in emphasizing the duty of religious instruction and worship than the Constitutions of most States; but even the fundamental instrument of Indiana declares that (Sec. 48), "No law shall, in any case whatever, control the free exercise and enjoyment of religious opinions or interfere with the rights of conscience," and that (Sec. 49), "No preference shall be given by law to any creed, religious society, or mode of worship; and no man shall be compelled to attend, erect or support any place of worship, or maintain any ministry, against his consent." . . . The

Constitution of Illinois also states that: "The free exercise and enjoyment of religious profession and worship, without discrimination, shall forever be guaranteed; and no person shall be denied any civil or political right, privilege or capacity, on account of his religious opinions; but the liberty of conscience hereby secured shall not be construed to dispense with oaths and affirmations, to excuse acts of licentiousness, or justify practices inconsistent with the peace or safety of the State. No person shall be required to attend or support any ministry or place of worship against his consent, nor shall any preferment be given by law to any religious denomination or mode of worship."

These references prove that the State University, like the public schools of certain Commonwealths, is able to use religion to a certain extent as a condition and force of its administration. In most Commonwealths the State University could fittingly hold a service of prayer each day, but it could not fittingly require the presence of its students at such a service. As a matter of fact, a few universities do maintain a daily chapel service, and of these few, among them the University of Minnesota, none require the presence of the many students who attend. But it is clear that the type of religious piety whose exercises in the universities receive the sanction of the governing boards, is more general and less aggressive than that found in the private or denominational college.

Which of the two types is superior it is not necessary to affirm; the discussion would carry us too far afield; each has its advantages and each its disadvantages. It is evident, however, that not a few families with ecclesiastical affiliations prefer to send their sons and their daughters to State institutions rather than to their own denominational college. They know that many are the elements which make a college of value to a student, and that religion, though one of these elements, is only one. In Lincoln, Nebraska, is a university under the control of the Methodist Church. In Lincoln, also, is the university of the State. The number of students who are adherents of the Methodist Church is practically the same in the State university as in the Methodist institution—about five hundred. In general, too, the number of students in a State university affiliated with a particular denomination is found to be larger than the number of students in the corresponding denominational college. There are more Congregationalists in the University of Michigan than in Olivet College, and more Presbyterians than in the Presbyterian College of Michigan. The number of Congregationalists in the University of Minnesota exceeds the number found in Carleton College. Such statistics, of course, do not prove that the influence of a church is stronger in a State university than in its own institution, for influence is now shown only by numbers. They prove

merely that, in the opinion of many church families, the advantages offered by their own colleges are on the whole inferior to those offered by the university of the Commonwealth.

Besides the duty of religious education, which is more easily done by the private than by the State institution, there is a further service which, as a matter of fact, the private college renders more easily. In the personal influence of the teachers over students the private college is undoubtdly the stronger. One may say this should not be the case. Yet usually it is the case. The teacher in a State university is inclined to regard his employer, the Commonwealth, as an impersonal being demanding only impersonal service. His work is to give a certain number of lectures, to hear a certain number of recitations, to conduct a certain number of laboratory or other exercises; these given, heard, conducted, his work appears to be done. This narrow conception of professional service is, of course, far from universal. Scores of exceptions could easily be cited. But that this conception is more common in the State institution than in the private would, I believe, be granted by all.

Now the more personal relation of teacher and student in which the private institutions excel is most advantageous to the student. It is one of the great values, if not the greatest, which he carries away from college. It means inspiration, wisdom, life.

It is often said that the State university, organized in many cases to teach the most practical subjects, should limit itself to the sciences, and that the private institutions should emphasize the humanities. So exact differentiation seems hardly possible. The State university can not worthily teach science to those who know science only. "If I wish to teach a boy chemistry, I would first have him learn Greek," a great teacher of chemistry said. I should carry his thought a step farther, and say that it is the duty, though a secondary duty, of State institutions, to offer tuition in language, literature, philosophy, and history.

It is equally incumbent on the private and denominational college to provide instruction in physics, geology, biology, and chemistry. What is the primary duty of the State institutions, in teaching the more practical subjects, is the secondary duty of the more personal institution, quite as truly as for the State institutions, to teach the humanities, is their binding, primary duty. As to the formal relations of the three classes of institutions, I wish to offer certain specific suggestions.

It has been proposed that all undergraduate instruction be given over to the private or denominational college. This would be practicable in a State like Ohio, where the private colleges are sufficient in number, ample in equipment, in number, and efficient in service. It would not be practi-

cable in Michigan, where the number of private colleges is only five. But even if practicable, such a surrender might not be wise. The duty thus transferred from the citizens in their organized capacity to essentially the same citizens in their unorganized capacity would prove very onerous; and in certain States, like Kansas or Texas, the private colleges could not properly perform it.

It is often suggested that the private colleges assume all undergraduate work of the freshman and sophomore years, while the university undertook the last half of the undergraduate course. Such a method, however, would involve an arbitrary cutting of scholastic relations. This severance would not only bring disaster to the finer scholarship, but would necessitate the surrender of many personal relations, which are of the richest worth. Most students would, therefore, refuse to submit.

I am reluctant to believe that, in most Commonwealths some system of confederation cannot be successfully adopted, under present conditions. At the same time, when many colleges were founded the conditions were quite different. One can now go as quickly and almost as cheaply from Cleveland to Cincinnati, at opposite sides of a great State, as one could go seventy years since, from Oberlin College in Hudson, only fifty miles away. Electric roads, steam roads, swift, easy, safe and cheap transportation, have helped to do away with the need of many colleges. Local relations have therefore lost force, and consolidation, or at least a second confederation of colleges, has become a rational proposition. But it is to be remembered that not a few colleges possess buildings of great value. In many cases these buildings represent half a million of dollars. Of course, too, successive generations of students have formed lasting and intimate associations with these local habitations. To secure compensation for such pecuniary and personal sacrifice as would be caused by removal would always be difficult and sometimes impossible. But, despite all this reasoning, the principle of confederation should have a larger place. Individualism in the founding and administration of colleges and universities has been carried too far. The methods prevailing in our industrial system should be more extensively employed in the educational. The success of confederation at the University of Toronto gives ground for the confidence that a similar movement could be adopted advantageously in certain of the new estates.

Despite intimation to the contrary, the present relations between institutions of all three classes are on the whole intimate and harmonious. Instances are not unknown in which the private and denominational colleges have consulted with some fear and trembling, respecting the increasing power of the State universities. But the purpose has been less to limit the power and opportunity of the State institutions than to open new opportuni-

ties and to increase its power for entering into opportunities, with which the private college cannot so fittingly enter. Each of these three types of college university is to abide. The need in most States is not for more numerous colleges of any one type; the need is for better colleges of every type. In any Commonwealth, or in any country, there can safely be as many colleges as can be made or kept good. A bad college should be used as a bad debt; it should be stricken off the list of assets, only if it cannot be made good. The fit college will survive; the unfit college should make itself fit to survive.

As an illustration of the harmony of relations existing between colleges, I wish to quote from two letters, written by the presidents of the two principal institutions of the State of Iowa. The first is from President MacLean, of the State University, and the second from the president of Iowa College, the Congregational College at Grinnell. President MacLean says, "To draw civilization out of the depths of ignorance we need the three-fold cord of private, church and State education in the never-ending contest of liberty with tyranny; we must have the same three-fold cable to make a cordon against the dominance of tyranny. When the private institution is constrained to hamper freedom under the pressure of a private patron, or the church institution to sacrifice freedom to ecclesiastical policies or dogmas, then we must hold to the State strand for freedom. When the politicians would constrain freedom in the State institution, then we must depend upon the one or the other of the first institutions to save the day. The community of interests among these institutions, each having a special cause for existence, is greater than their diversity of interest. It is as shameful for the institutions of culture not to have cordial relations and to propagate sweetness and light, as it is for the so-called Christian denominations to quarrel. There is work enough for all; and to repeat myself, a relation should be one of comity. To enter upon details, one must know the particular State; for the relations will vary with the history of each State. The patriotism of Statehood should co-ordinate its institutions to do a special work for the State, and to make its contributions to the Federal Union, and over and above that, to the republic of letters. It especially falls to the university by law established, and supported by the State, to maintain the highest standard, and to be a crown of the public-school system. At the same time, the State university must recognize that the other colleges are its constituency, and it must endeavor to serve them. In this State, through the college section of the State Teachers' Association, of which the university is a member, through certain standing committees, we administer the tests as to what makes a recognition of a standard college; we promote common entrance requirements; and the university, by the inspection of schools,

the results of which are freely given to the other colleges, saves them all as well as itself."

In turn President Bradley, of Iowa College, at Grinnell, says, "My feeling about the relation of the State university and private or denominational college is that they supplement each other. Between them there should be the most cordial and friendly relations. As a matter of fact, Iowa College and Iowa State University and Agricultural College are on very friendly terms. We do a work which cannot be done at a State university, and the State covers a wide field which we do not expect to enter. The State University, for instance, cannot teach religion; and it must needs be limited in that direction. It must also have some regard to the ideas of the dominant political party, and its teachers are not entirely free to teach or utter views repugnant to the majority controlling the Legislature, which appropriates money for their support. The private or denominational college is freer in all these lines, and it is a constant force steadying and strengthening the best scholastic development of State educational institutions, enabling them to maintain themselves against political and educational charlitanry. But for the private college, State institutions would be likely to require lower standards in their work, under the pressure of popular demand; and I have no doubt that the present splendid development of State schools is due to the fact that private universities insist upon keeping the standard high and making it still higher year by year. The private or denominational college, too, is stimulated by the State institution. It cannot be narrow and sectarian, and hold its own. It must use every effort to enlist men of means in its behalf. The two systems are thus together causing the torch of learning to burn brightly, and to induce thousands of young people to secure higher education. If I had my own way I would not hinder any of these schools or hamper them, but encourage them all. A better understanding is coming among all school men, and less jealousy. I have no quarrel whatever with the schools maintained by the State."

Not in every Commonwealth does such harmony of relations exist between the president of the State university and the president of its chief private and denominational college. But such harmony is becoming more common and stronger. The increasing power of any college in a State should mean the increasing power of every other. When the State university of Colorado or California is making rapid progress, the private or denominational college should not lessen State appropriations to the State institution, but should quicken their own life and enlarge their own resources.

That this course actually has been adopted in these States, is an added reason for confidence in the future relation of the three types of institution in the Central West.

THE TRUSTS AND THE PUBLIC

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THE discussion now going on in regard to the regulation of large corporations, popularly known as "trusts," would probably be more intelligent if there were a more careful definition of the objects sought and a more definite understanding of the interests to be served by such regulation. There has been so much of passionate declamation on the one hand and so much of strong resentment on the other that the true issues have been to a large extent obscured in a mist which the thoughtful voter will find it difficult to penetrate if it is not cleared away before he is called upon to vote on the subject next autumn. It is obviously for the interests of those who have really anything at stake, whether as the promoters of important enterprises, as investors in securities, or simply as the consumers of "trust-made goods," that all sides of the question should be fairly presented and dispassionately considered.

The biblical mandate,—"Come now, let us reason together,"—should be given a sufficiently broad application to include a recognition of concrete facts as well as abstract principles. It has been one of the distinguishing qualities of the Anglo-Saxon peoples,—which has marked them off from their Latin rivals,—that they have not been too hasty to adopt abstractions as a rule of action. They have shown a respect for "vested rights," even when those rights have grown into abuses, which has deprived their political progress of such picturesque episodes as the abolition of the old calendar, the voting away of privileges in a night, and the tearing open of the sepulchres of kings, which marked the Revolution in France, but has contributed on the whole to their more solid progress in the difficult art of linking economic development and the security of property with government by universal suffrage.

In dealing with the problems growing out of new economic developments, there is no reason to doubt that the American people will in the long run proceed with the same sobriety, sanity and respect for their real interests with which they have proceeded to the solution of similar problems in the past. With a presidential campaign at hand, however, care should be taken to guard against hasty judgments and above all against reasoning to an apparently sound conclusion from premises which are falsely assumed. If the premise is sound, that all large corporations are inimical by their very essence to the economic, political or moral life of the nation, a means will be found for destroying them. If this premise is not sound, but if only certain phases of corporation management, and not all, are injurious to the national welfare, then care should be taken in removing the unsound timbers so that the majestic fabric of our economic power, which makes us

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the admiration and envy of all peoples, is not weakened or brought down in ruins.

It is not proposed in this article to exhaust, or to seek to exhaust, the subject of regulating large corporations. It is a subject which is not likely to be exhausted this year nor the next,—perhaps not within the time of men now living. It is proposed here simply to submit a few considerations on certain phases of the subject which have thus far perhaps been given less weight than they deserve.

In clearing the ground of the rubbish of much of the current discussion, it is desirable that certain distinctions should be made as to the objects sought by further regulation of corporations. One of the distinctions which the advocates of further regulation may fairly be asked to make is whether their essential object is the protection of the investor or the consumer. It is obvious that these two interests might be quite antagonistic. It is to the interest of the investor, in a narrow sense at least, to get as much from the public as he can by means of large profits and exclusive privileges for the corporations whose stocks or bonds he holds. It is the interest of the consumer, on the other hand, to limit the profits of the investor and to restrict the privileges of the corporation whose products he desires to use.

From a broad point of view there is a certain harmony of interest even where there appears to be antagonism, since a far-sighted corporate management will seek on the one hand to keep profits below a point which will create new competitors and, on the other hand, will seek to steadily enlarge its market by offering products at prices which are attractive to consumers. These influences, however, are the result of natural economic forces whose sufficiency in preventing abuses is denied by those who advocate further regulation of the corporations than that afforded by existing laws. From the standpoint of the advocates of regulation, therefore, there should be a sharp distinction drawn between legislation for the investor and that for the consumer, if any intelligent progress is to be made. It is rather remarkable that recent criticism of the corporations has turned more upon what the investor has suffered from the decline in values and the flotation of doubtful securities than upon the injury which has been done by corporate exactions to the consumer; yet, by a strange confusion of reasoning, the prejudice caused to the investor by these events, in the cutting of prices, the fall in values, and the collapse of weak concerns, instead of being welcomed as bringing tardy justice to the consumer, is used as one of the weapons in the general crusade in the consumer's behalf.

That regulation of corporations by law is to a certain degree necessary and desirable, is a recognized principle of our legal policy. Corporations are the creatures of the law because their shareholders are dowered by the

law with the privilege of limited liability and the corporations themselves are given the advantages of perpetual life. Heretofore, however, the several States have been left to regulate corporations as they saw fit, and their regulation has been in many cases eminently efficient. They have so far protected the holders of insurance by careful definitions of their rights that the varied forms of policies have been reduced to a nearly uniform income basis. They exercise the power of visitation over State banks, as the Federal Government does over national banks. In many cases, they collect special taxes upon corporate franchises and earnings, which would have to be renounced if this form of taxation were adopted by the Federal Government. Such legislation has been the result of experience. It did not spring forth fully formed, with the birth of insurance companies and State banks. It has become more nearly perfect in those States where these institutions have attained their greatest development, and its history may well afford an index for the future to those who are not too impatient of the reasoned deliberation of Anglo-Saxon methods in dealing with such subjects.

If there is to be, therefore, further regulation of large corporations, and especially the extension of Federal control over State corporations, it will contribute something to clearness of thinking and precision in action if the ends sought,—whether the protection of the investor or the protection of the consumer,—are clearly defined and separately considered.

It is obvious, from the side of the investor, that his protection by law implies that he shall be protected against investments in securities which have not the value they purport to have. It means additional guarantees that dividends which are not earned shall not be paid, and that proper provision shall be made by setting aside reserves in fat times for the payment of dividends in lean times. These are desirable objects, but they are already sought by the corporation laws of the States where corporate business is largest. It is a question whether the protection of the investor in the future should not proceed along the lines of his economic education rather than along the lines of new restrictions upon corporations. Just so far as the Government relieves the citizen of the obligation of looking out for himself, it promotes a condition of dependence upon the State which is detrimental to genuine economic progress. Ample illustrations of this may be found in the history of corporation law in such countries as France and Germany. The French law requires any foreign corporation entering upon business in France to obtain from the French Consul in the country where the corporation is authorized a certificate of its incorporation. The certificate means nothing as to the solvency and earning power of the corporation, but it puts upon paper corporations the stamp of the signed declaration of the French Consul that they are legally consti-

tuted in a foreign country. While such a circumstance does not mislead the intelligent financier, with ignorant investors the intervention of the French law has proved a positive aid to adventurers in perpetrating frauds, because of their implicit reliance upon the value of an official certificate.

It is hardly possible that any body of law, however minute and however restrictive, could protect investors against the consequences of their ignorance in making investments. The essential thing is not to hamper legitimate corporations by new laws, but to teach the public to judge investments with discrimination. It is not possible in a progressive nation for the law to forbid the owners of capital from investing it in enterprises whose securities have not acquired the character of trust funds. Any such policy would mean that enterprise would come to a dead halt, for it would prevent rich men with money to spare from putting it into patents or enterprises promising great economies in production and benefits to the community, but not yet placed upon the solid investment basis of bank shares or railway bonds. The latter quality is acquired only by enterprises which have been subjected to the test of experience. Railway bonds themselves were an investment of a very uncertain character within the memory of many now living, but if the State had not permitted men with faith and foresight to invest in them we should be doing business still with the stage-coach and the post-road.

One of the primary lessons which the investor should be taught is the discrimination between different types of investment. He should learn that bonds have a prior lien over preferred stock and preferred stock over common stock. He should learn that these distinctions are necessary to meet the requirements of different types of investors,—the holder of trust funds, who should invest only in bonds and tested preferred stocks; the man who is willing to take slight risks and therefore may invest in preferred stocks of slightly lower reputation; and the man who for the sake of possible large gains, is willing and able to take large risks, and may therefore invest properly in the common stocks of untried "industrials" and undeveloped mines. The investor should learn the lesson that he cannot reasonably expect all these qualities to be combined in one investment,—that the securities which are absolutely safe are not usually the ones which are sold the cheapest and from which the largest returns may be expected. If the thousands of people who have within the past three years invested in some highly speculative common stocks and have seen their prices decline 75 per cent. in the market have been advised by competent financiers that such stock was a safe investment for trust funds or for those who could not afford to lose, they have just cause of complaint against their advisors; but if they had possessed a pittance of financial knowledge they should have known that the common stock of an untested enterprise, quoted far below

par, could not in the nature of the case possess the character of a trust investment. It is difficult to see how legislation could protect such a type of investors from the consequences of their ignorance.

A sound economic education would teach the public that high returns almost inevitably mean risk, and that the man who buys securities which have not reached the basis of trust funds should not invest more than he can afford to lose. In simple terms, speculation by people of small means should be discouraged, while sound investment should be encouraged. There is undoubtedly in America too much reckless and uninformed speculation, especially on margins. "One of the things which surprised me most," said an English guest at a dinner-table in New York last winter, in response to a question as to what impressed him especially in the American market, "is the amount of business you do on borrowed money." He referred to the speculation on margins which is so universal here among people of small means and which finds so slight a footing on the English stock exchanges.

It is likely to prove a task of Sisyphus to attempt to protect the public against foolish investments. Opportunities for investment will constantly assume new forms which will elude the most stringent law. The only thing which would finally extinguish speculation would be the reduction of all economic forces to certainties. This can never happen until economic efficiency attains its maximum development. It may attain this development in an ideal world, or it may attain it by the cessation of intellectual activity and enterprise in the existing world. The latter event,—when inventions cease, no new enterprises are born, and nations begin living upon their capital and falling behind their more ambitious rivals, is what is called by economists "the stationary state." Such a state in America would be the antithesis of the conditions of to-day; but one of the most effective conditions for bringing it about would be undue restrictions upon American ingenuity and enterprise with the object of protecting the reckless and improvident.

Even in a stationary economic state, there would be alternating periods of business expansion and contraction. With such periods stocks would rise and fall. Even if new enterprises of merit were stifled by law or by lack of enterprise, fantastic projects would be conceived for absorbing saved capital, like "the tulip mania" in Holland and the South Sea bubble in England. All that can be done for the investor by positive law is to protect him against palpable fraud. He cannot be protected against himself if he chooses to embark in speculative enterprises. As President Roosevelt has so tersely said, "About all we have a right to expect from Government is that it will see that the cards are not stacked."

The direction in which capital shall flow is determined by competition. Where it proves profitable it continues to go. From where it proves unprofitable it withdraws. Intervention by the State which seeks to determine the direction of the flow of capital is likely to do harm by fettering industry and diverting capital from its most productive uses. In any case, laws regulating capital in the interest of the investor, when they go beyond legitimate protection against fraud, usually prove ineffective because they come after the evil which they seek to cure. They simply lock the stable-door after the horse is stolen.

Turning to another phase of the current discussion regarding the regulation of the trusts, we find that much is said in behalf of "publicity." "Publicity," in the minds of many, is the panacea which is to cure all ills by revealing to the fearless eye of the incorruptible official and to the sane, clear mind of the investor all the dark spots in corporate management. In so far as publicity prevents palpable fraud and insists upon certain sound rules in the organization of new companies, it undoubtedly serves a useful purpose. The purpose served, however, is to provide accurate data upon which the investor may base conclusions as to the earning power of properties. Provisions for such publicity as this are found in the existing laws of most of the States. Railways file reports with the railway boards of the States through which they run, and local corporations in nearly every State are required to make exhaustive statements of their earnings and assets to State officials.

Would further publicity be of value to the investor who is careless or over-optimistic? This is a question which should be thoughtfully considered by those who attach importance to publicity. Under the English law "publicity" has been carried so far ever since 1862 that the representative of a yellow journal or any other curious person has had access for a shilling to the registers of share companies, with authority to ascertain the exact number of shares held by each member with the amount which he has paid for them or failed to pay; yet this calcium light of "publicity" turned upon the business of the modest and honest rich man has not prevented gigantic frauds by his dishonest rivals, repeated losses by reckless speculators, or the necessity of further tinkering the general companies' acts more than sixteen times in a generation, independently of other acts relating to special classes of corporations. Would the man in America who proposes to take a "flyer" in "steel" or "cotton" be more likely than his English brother to be deterred or benefited by more publicity regarding those industries? The Steel Corporation already makes admirable reports quarterly and semi-official estimates of its earnings at much more frequent

intervals. In cotton the Government makes crop estimates which come in conflict with many private estimates. The complaints and charges of bad faith which these Government estimates engender are a suggestive hint of what might follow general Government supervision of industry.

If a man is determined to take foolish risks by buying speculative stocks when he cannot afford to lose, he is not likely to be stopped by anything short of actual prohibition by law. Does the demand for publicity, then, when submitted to analysis, mean a substitution of official judgment for private judgment? It is difficult to see what else it means, if the thoughtless speculator who hopes to make money by buying some stock "for a rise" is to be prevented from doing so when he is likely to suffer a loss. Shall his right to "take a flyer" in cotton be subordinated to the judgment of the chief of the Bureau of Statistics of the Department of Agriculture that the crop figures do not make cotton "a good buy"? If so, State socialism is enthroned at a bound in our political system.

Unfortunately, human foresight has not yet reached the point where it can be determined with certainty in every case whether a given course will bring a profit or a loss. The man who first invents the formula for determining this point will hold the world in the hollow of his hand. For him and for all to whom he confides his formula, speculation will cease.

Putting aside, then, the question of official control over private action, the residuum of the question seems to be, whether greater publicity than exists to-day would protect the reckless speculator against himself. Does such a man lose money because he cannot get information which he honestly seeks? When he gets a "tip" to "sell Pennsylvania," does he proceed at once to examine all the available data regarding the finances, policy and future earning capacity of the Pennsylvania Railroad? These data exist in the most accessible form which is possible, in official balance sheets printed broadside in the newspapers, and in elaborate detailed reports of operations, assets, train mileage and earning power per mile. If these data are neglected where they are now made public, would they be any more carefully studied, except by experts, when the mass of material to be examined was increased? Publicity in certain cases where there is now secrecy would undoubtedly benefit a few, but it would be the few who now profit most by careful study of values and by shrewd employment of their resources. But it is not these men who are calling most loudly for "publicity," and it is not they whom it is in the heart of the agitator against the "trusts" to serve. To "the man in the street" it is doubtful if publicity would be worth a dollar in increased profits or diminished losses,—whether, indeed, he would not be tempted into greater recklessness by the assurance that the

paternal hand of the Government had been laid for his protection upon every corporation brought under Federal law.

It is worthy of serious thought, whether in seeking the protection of the individual, there is not danger that we should enter on the narrow path of some of the continental countries, where interference by the State with corporate activity tends to stifle invention and to drive away capital. Not until July, 1903, was it possible in France to divide by law the shares of a corporation into common and preferred. Shares issued for anything but cash cannot be sold on the exchanges for two years. The securities of foreign corporations cannot be listed or even publicly sold in France without the payment of taxes which practically exclude them from the Paris bourse. As the result of such restrictions, the French masses have acquired in financial matters a degree of dependence upon the Government which has tended to take away their confidence in themselves. By the confession of thoughtful Frenchmen, capital tends to leave France for markets where it is more free, and the persistent thrift and intelligence of the French people does not find the productive outlets at home which would be found under a system of greater economic freedom.

For the protection of the investor, therefore, it is doubtful whether new laws would have value unless they stifled all the qualities which are giving America her predominance in the world of finance. The protection of the consumer presents another side of the problem. Will he be benefited by severe repressive legislation regarding investments and by giving publicity to all that is done by corporate authority? From a narrow standpoint it may be conceded that it is possible to take something for a limited time from the capitalist and the producer and hand it over to the consumer. The French National Assembly was able to take property from the nobility and turn it into the coffers of the nation. France and Mexico have been able to confiscate the property of the church and appropriate it to public uses. Italy, some years ago, converted a five per cent. bond into a net four per cent. obligation by imposing a tax of 20 per cent. upon incomes from securities; but the stock market promptly responded by reducing Italian securities to a price corresponding to their diminished net return. So it might be possible for the property of the Standard Oil Company or the Steel Corporation to be seized by the State or practically confiscated by excessive taxation and turned into the public treasury. But it is not such extreme measures that it is necessary to discuss. It is obvious that the attempt by the Government to fix maximum prices for commodities or to diminish by taxation the profits of industry, would yield only temporary results, because properties would be sold by their owners or abandoned when it became impossible to run them at a profit.

The essential question in regard to the consumer, therefore, is whether the community as a whole will secure in the long run a real economic gain by adopting restrictions on corporate activity or on the forms of investment. This is the crux of the problem,—whether the consumer will be benefited in the long run by measures which tend to repress inventive skill and enterprise by diminishing the profits of those who possess these qualities. The difference between a progressive nation and a receding one is chiefly the intellectual activity and inventive genius of the former. These qualities must, even in the most enlightened States, be the rare property of a limited number of individuals. In America, fortunately, the opportunity to enter their ranks is open practically to all men. But even under these favorable conditions the number of men who rise above the treadmill of daily routine, whose minds reach out to devise new mechanical appliances, great economies in railway and industrial management, and financial projects which carry out these economies, must ever remain a small fraction of the whole community. This being the case, the vital question is whether it is desirable to encourage the efforts of these men or to discourage them.

How mighty is the influence of these few minds,—the inventors, the captains of industry, the resourceful authors of new financial combinations, —upon national economic progress is realized by few. Plodding industry, which must ever be the virtue of the mass of men, accomplishes much; it is the foundation upon which all else is built. But plodding industry alone does not utilize new forces; it does not harness Niagara; it does not keep a nation at the forefront in the race with industrial rivals. The Chinese and several of the Latin peoples are perhaps to-day the equals, if not the superiors, of Americans in their willingness to work and save; but these qualities are not sufficiently supplemented by those great powers of invention, initiative, and combination which give dominance in the modern world. The few who consecrate themselves to the development of these higher qualities do it often at the sacrifice of that ease of mind and domestic comfort which is the happy ideal of the normal man. When the clerk, who is content with his salary and his home, quits work at four or five o'clock, he usually leaves behind him all thought of his occupation, and he often leaves behind him, still busy at his desk, the captain of industry from whose waking and sleeping hours are never absent the worry over competition, the mental struggle for new methods of giving economy and efficiency to labor and to the distribution of capital.

It is the numbers and the success of these men,—their ability to work unfettered in a free economic field,—which determines whether a nation shall be great or little, whether it shall advance or recede,—whether its cities shall house throbbing life, like London or New York, or only gloomy

monuments of a buried past, like Carthage, Tyre, or Rome to-day. Great is the function of creation,—the greatest power given by God to man. It is a power which is rarely lodged in the State, and which, if assumed, usually brings forth ill-formed, impotent, hermaphrodite shapes. The utmost exercise of power by the modern State rarely results in creation. It may appropriate the creations of others; it may sometimes make wise use of their creations; but usually its power, even when wisely used, is simply repressive and destructive,—it is not creative. Jealously, therefore, should its encroachments be watched, that it may not stifle or repress that creative power which is the seed of the growth of nations.

It should not be forgotten that, palpable fraud aside, these men with the genius for invention and combination cannot succeed themselves without giving something to the community. Even some of their operations which seem questionable cannot be well restricted by law unless their entire activity is to be restricted. To issue common stock which is not as well secured as preferred stock or bonds is not fraud. On the contrary, to the merest tyro in finance the fact is proclaimed by such an issue that it does not claim to be as good as preferred stock or bonds. Those who buy it are not entitled to much sympathy where they enter the stock market simply as gamblers and not even as intelligent speculators upon market conditions, in the hope that they will profit by some other man's blunder and will put in their own pockets an unearned increment which he has lost.

The State cannot correct such folly as this except by interference which would stifle enterprise. The men who conceive such enterprises and who have the capital or the courage to take risks are the ones to whom the profit or the loss should accrue. If other men having money which they can afford to lose see fit to share with them the risks of loss or the possibilities of profit, there is no reason why the law should intervene. Only by taking such risks does the world make progress. The man who invents something which does not involve a real economy,—whether it is a mechanical device, a parallel railway line or an inflated and useless "merger,"—cannot take anything for himself from the community as a whole if his project involves no net gain to the community. If there is no net gain, he loses what he invests in the enterprise. If there is a net gain, then the question reduces itself to this,—whether its present distribution shall be so changed that the public shall get a larger share of the fruits of this man's thought and risk and he shall get a smaller share. Under the least favorable conditions, the public, as consumers, cannot fail to obtain some share, since it is necessary to offer them something more economical than they have had before in order to induce them to accept the thing which is new.

If a man invents a new engine which is more costly and less economical in operation than the old ones, no railway company will buy it from him, however skilful and interesting its mechanism. If a shopkeeper offers a new device for raising bread, no housewife will buy it more than once if she finds that it costs more and yields poorer results than the device she has been using. The new device must be either offered at a lower cost or with a higher degree of economy and efficiency than the old in order to find a market. The principle may seem less simple when extended to the formation of stock companies and the floating of preferred securities, debenture stock, and convertible bonds, but its essence is the same. The man who perfects a new system of railway management or a new financial combination cannot profit in the long run if the enterprise itself does not involve some increase in the producing power of the community or some economy in the use or distribution of capital.

For the consumer, therefore, it is doubtful if further State intervention would bring permanent benefits. Spoliation might profit him for a moment, but only to make his last state worse than his first by suppressing the spirit of improvement which is the ultimate source of progress. What the State should do if it goes beyond its present functions, is to give an economic education to those who desire to enter the financial world. It should teach them the fundamental principles that the dividends of an enterprise are inversely to its safety; that speculation on margins should only be indulged in when one has money to lose; and that investments should be made only after careful study of the value of properties from the sources of publicity which already lie open to him who cares to read them.

Upon the question whether larger powers to control corporations should be conferred on the Federal authorities there are also two sides. With the unification of national life and the wiping out of distances by the railway and the telegraph, there is much to be said in favor of uniformity in business methods and control. Uniformity always has a charm for the type of mind which is severely logical. England has a general corporation law. Issues of new stock and bonds are recorded at Somerset House and the aggregate corporate capital of the nation can be ascertained there. But in England corporations are not to any appreciable extent the playthings of politics. The laws regarding corporations are largely influenced there by the crystallized opinion of experts. Rarely, if ever, since England attained her commanding industrial position has the question of controlling corporations been a subject of division between Lombard Street, where the corporations are financed, and the agricultural interests of Northumberland or Devonshire. Never perhaps in modern times has an organized campaign been made for the regulation of corporations against the opinions of "Lom-

bard Street" and upon the ground that those opinions were unworthy of consideration.

If similar conditions existed in this country,—if the views of "Wall Street" on changes in the corporation law were always attentively listened to at Washington and were accepted as a guide in framing legislation, subject only to the modifications suggested by disinterested economic experts,—then perhaps legislation which was at once sane and strong might be secured from the fountain-head of Federal power. There is hardly any more drastic legislation in the world than that of the English companies acts against the formation of fraudulent and unsound companies; but it is legislation intended for the protection of the investor, with few traces of a purpose to hamper legitimate companies in the conduct of their business with the end of regulating the price of their products. This sort of regulation, which in Great Britain has accompanied centralized control of corporations, is hardly that which appeals to those who seek to diminish corporate power in the United States. The last thing in the world to which they wish to give weight is the opinion of Wall Street or even of the anathematized students of abstract economics.

While it does not perhaps follow from the example of Great Britain that subjecting corporations to Federal control would give them more power over legislation than they now possess, there are forces which might be brought into play which would tend towards this result. There is reason to fear also that this influence would not be felt in the same direct and open way as in Great Britain, where the influence of "the city" is considered legitimate and goes unremarked, but that a less open and more questionable power would be acquired by the monied interests when they had to deal with a single legislative body, instead of dealing as they do to-day with forty-five legislative bodies.

The concentration at Washington of all power over corporations, including the granting of franchises by law, their regulation by executive boards, and their interpretation by Federal courts, would make possible a crystallization of the power of corrupt influences such as has never before been possible in the history of the world. It would surpass in some ways the concentrated power of corruption which was practiced at Rome when Jugurtha was able to declare it a city where everything, even national honor, was sold, and where republican government finally perished because of the enormous bribes which were offered to the voters by the generals and speculators who had appropriated the spoils of the world. The advocates of sweeping changes in the control of corporations should at least measure the possibilities of danger in transferring to the Federal capital the great forces of corruption which make our city governments in many cases

the plague-spots of our political system, and which make State legislatures too often the tools of those who seek to buy great franchises.

Public opinion, if concentrated upon Washington, instead of diffused over forty-five State capitals, would undoubtedly break out at times in resentment against some glaring abuse, but would it be able to follow all the sinuous paths of corrupt influences through committee-rooms and executive offices? Men in public office are only human. If the prospect of a few thousands going to favored contractors was sufficient recently to seduce the virtue of several of the underpaid heads of bureaus in the Post-office Department and to permit them, through complacent collusion, to carry on frauds for years without discovery, what would be the influence upon a bureau of corporations of projects involving millions,—where the change of a comma or a phrase, even a not unreasonable delay in making a decision,—might enrich a corrupt or weak official, with hardly the possibility of detection?

Every financier knows how important are what seem to be most trifling things in determining the value of a franchise or in getting ahead of a competitor. If a comfortable fortune were the compensation sometimes attainable for merely delaying or hastening a decision, who shall say that Federal officials at Washington, with salaries ranging from $2,500 up to $4,000 for the most exacting and responsible duties, would always be impervious to such temptation? They would hold in their hands a power of extortion such as has never been surpassed. How serious an obstacle may be interposed to corporate plans even by delay is shown by the long litigation over the United States Steel bonds which were issued in exchange for preferred stock. It was a commendable act on the part of Mr. Morgan to determine to resist the buccaneers who undertook to check the plans of the corporation by "strike suits," but in making the decision to fight rather than to pay he probably condemned the corporation by the decline in the value of the bonds between the date when their issue was first proposed and the date when the decision of the courts finally permitted them to be put upon the market, to a loss of many millions.

When to the risk of individual corruption at Washington came to be added that of political corruption, the dangers lurking in concentrated Federal control of corporations would be even more serious. The power to assess the Federal officeholders has been availed of more than once to fill the campaign chest of a party in office. If this power of assessment could be extended to the great corporations of the country, under the threat that they would get too much "publicity" in its most harassing form if they did not contribute, representative government would be subject to a menace greater than any it has yet encountered since it was born in Great Britain eight centuries ago in the struggle between King and Parliament. A party

once installed in power, using without scruple its ability to levy contributions upon the corporations, and to distribute these levies like the Roman corn-grants, as gratuities among the poorer voters, would be a self-perpetuating body more absolute for a time at least than the most absolute of voting trusts. For the latter operates under the law and subject to the law, while the former would be above all law or fear of law except that of the paying power of its victims. The American people should at least be very sure that the evils to be cured are greater than those which the remedy itself would bring, before they turn with too light a heart to so portentous a change in the constitutional system of checks and balances established by our fathers, with blood and prayer, that ours might be a Government of laws and not of men.

The considerations which are presented here do not constitute an argument against intelligent discussion of further legislation on the problem of the corporations. Within the States the corporation laws can probably be improved in many cases in the interest of the investor. In the nation perhaps some simple laws might be enacted for the protection of the consumer without disturbing the rights of the shareholder. It would be as idle for the shareholders in corporations to claim that we are already living in an ideal world as it would be for their critics to seek to go back to the time when limited liability was almost unknown and when safe investments were confined to Government bonds.

Few will contend that we are living in a world in which economic forces can be trusted to work out absolutely unfettered by law those economic harmonies, perfect as the music of the spheres, which were the dream of Bastiat. What is here written is set down simply to promote intelligent discrimination in the effects of proposed legislation, careful weighing of the hidden dangers as well as the obvious results of extending Federal control too far and too rapidly, and dispassionate consideration of all aspects of the great problem of best protecting the individual American without impairing his freedom of thought and action and his right to the proceeds of his labor. There should be clearer thinking, less blind hostility to wealth, whether in individual or corporate form, and absolute definitions of what is sought by new measures, whether it be simply protection for the investor or the consumer or the destruction of industries and property. Those who are not impelled by the latter purpose shall take care not to be made cat's-paws by those who are.

If momentary prejudice and desire for political capital are excluded from consideration, it is at least questionable whether the time is ripe for new legislation of a drastic character in regard to corporations. It is apparent that important interests are timorous as to the effects of such legislation

upon business and investments. Whether they are right or wrong in this timidity, it may fairly be said that the burden of proof in favor of any specific Federal law should be put upon those who advocate it. Business interests should not stand in the way of the national life or well-being. Where a clear need exists for legislation which is injurious or dangerous to them, those interests must give way. Their willingness to make such a sacrifice has been shown on many occasions. To name but one, in 1861 the associated banks of New York willingly came to the aid of the Government when a public loan could not well be floated and acceded to the demand that they should pay the instalments of their temporary loan into the Sub-treasury in coin instead of by the usual methods of transferring credit, although they well knew and emphatically declared that in submitting to this ill-advised demand of Secretary Chase, they were impairing their coin reserves and inviting the suspension of specie payments with its Pandora's box of evils.

If a similar necessity exists to-day for Federal legislation inimical to business interests, those interests should give way; but if there is no such clear necessity, and if the remedies for supposed evils are inchoate and their results are dubious, it is not apparent why legislation should be insisted upon pending careful consideration of the entire subject in all its bearings, economic, political and financial, including observation of like experiments in other countries. When ills assail the State, her best citizens are bound to seek for remedies; but when such remedies are proposed, the burden should lie upon their proposers to prove that they are real and not quack remedies. In the absence of a great and present menace to the national life, they should be adopted only after they have been carefully weighed by sane and temperate men and their benefits in their minds clearly and greatly outweigh the risks of change.

It is delicate work to experiment with industry. Business men and financiers are trained through life for such work. They must by the nature of their occupation make experiments and take the consequences of their blunders and their discoveries. It is doubtful if Government officials can more skilfully make these experiments. If tempted to use their great powers rashly, without fully weighing the consequences, they should reflect that

> "It is excellent
> To have a giant's strength; but it is tyrannous
> To use it like a giant."

when by so doing they may arrest the wheels of industry, spread terror and paralysis through the world of trade and above all stifle and pervert that fine spirit of foresight, initiative and intelligent daring which are the distinguishing traits of the American man of business, and have made possible the imperial progress of our country during more than a century of internal industrial freedom.

GERMANY, FRANCE AND THE PEACE OF EUROPE

GENERAL RICCIOTTI GARIBALDI.

ROME

WHEN the allies dismembered the Empire of Napoleon I., at the beginning of the nineteenth century, it was generally thought necessary to weaken France by confiscating part of her original territory. With a profound knowledge or perception of French character, Wellington, however, protested forcibly against any such step, and in an official paper gave as reason for his protest that the French, by ceaseless agitation to regain their lost provinces, would keep all Europe in a state of tension more serious in its effects than any war.

That Wellington saw clearly, has been proved by the history of Europe from 1871 to the present day. Bismarck lacked the wisdom of the English statesman; or perhaps allowed his Pangermanic aspirations to overcome his caution. However that may be, he prepared, for his own country and for all Europe, a future the central figure in which was to be a France, not only wounded in her dignity as a military state, but ever eager to avenge her loss of position and prestige.

It is quite true that France herself had set a bad example when she forced the Piedmontese Kingdom to cede Savoy and Nice to her. For this action there was little excuse; for the intervention of France in the Austrian war had been financially liquidated by the Piedmontese state. The cession of these two provinces, opposed strongly but too late by the English Government, was in fact a personal compensation, exacted by Napoleon III., for his failure to obtain an Italian kingdom for his relative *Plon-Plon*. This exaction, as I have heard eminent statesmen maintain, cost France Alsace and Lorraine.

It would have been providential indeed if the other Powers had called to mind the prophetic words of Lord Wellington, and had consequently opposed and prevented even the partial dismemberment of France. But Germany, with the impenitent Bismarck at her head, had even more drastic measures in view. She prepared to reduce France, by a second war, to a condition in which it would have been impossible for her to regain her lost provinces perhaps for centuries. English interference, a fact that Frenchmen generally forget, prevented what might have been the destruction of France as a first-class power.

Since this check the Germans have worked ceaselessly to consolidate their position as against that of France. Crispi's feminine sensitiveness to ridicule they have used very cleverly to drag Italy into the Triple Alli-

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ance. In spite of the new Russian friendship with France, they have kept up the cordiality which has always existed between Berlin and St. Petersburg. Even Turkey, which the cautious German mind recognized before the other Powers as a factor in possible European complications; even Turkey has been made much of to such an extent that German influence at Constantinople is equal, if not superior, to that of any other Power. No pains have been spared to pacify even the French, and though German diplomacy has always refused to recognize officially an open "Question" as to Alsace-Lorrain, yet it has been made clear by indirect means that Germany might relinquish a portion of these provinces if France would finally give up the rest.

With a pertinacity for which the world would scarce have given her credit, France on her side has been steadily strengthening her position; first by joining Russia in an alliance which probably means only a territorial guarantee; second by re-establishing her old relations with Italy, and finally by meeting England in a friendly spirit in the many vexatious questions which have come up during the extension of their colonial possessions. Especially in southern Egypt and in Morocco, France has made possible a cordial state of things which lately culminated, not so much in the personal reception given by the Parisians to King Edward, as in the very warm greeting given to President Loubet in London. Thus France, as well as Germany, has steadily prepared for what each intuitively understands will be the final resolution of the rivalry which has existed between them for centuries.

Though the idea of revenge has lost, for the French mind, something of its idealistic charm through having been used as a battle-cry by the anti-Republican parties, it was never more deeply rooted in the French heart. How true this is the following anecdote may suggest: In a friendly chat one day with M. Delcasse, the French Minister for Foreign Affairs, the writer of this article ventured to ask why France had given way so early to England in the Fashoda affair. The Minister answered almost angrily, "Cannot you understand that, while France and Germany balance each other in their land forces, France is much the stronger on the sea? A war with England would probably have meant, if nothing else, the loss of our navy, the only thing in which we are superior to Germany. Rather than risk that, I was ready to submit to any humiliation." These words show the feeling of all France, her ever-burning desire to wipe out the effects and even the remembrance of "L'annee terrible."

The ever-existing fear of complications that may arise from the unsettled relations between these two powerful European states has forced every other nationality into enormous expenditure for armament. As this excessive

expenditure has necessitated severe taxation, which has weighed mainly on the laboring classes, these have sought refuge either in emigration—which has so enormously increased in recent years—or in the powerful, defensive Socialist organizations; and curiously enough the government whose want of political foresight was mainly responsible for this state of things, is the one that has suffered most. In fact, while entire Prussian provinces are almost depopulated by ever-increasing emigration, the Socialists, nearly doubling their seats in the last German elections, have become the second party in the Reichstag. It is easy to foresee a time when they will be in an overwhelming majority. Meanwhile, each European unit has to face the fact that the question of Alsace-Lorrain is more likely than any other to create a convulsion which may greatly modify the existing state of things in Europe.

It would be useless, in an article of this kind, to discuss the technical bearings of the military question between Germany and France. As the difference which exists between the material and training of one army and of the other is slight in itself, we may take as conclusive the opinion of the French Minister of Foreign Affairs, that the two armies well balance each other. On the sea the question also remains as the Minister stated. How long it will remain unchanged, must depend on how much each state is disposed to spend on its naval armament, keeping in mind, however, that France, through her far greater national wealth, can the better afford an increased expenditure.

Under these circumstances, in case of a conflict, which side is most likely to win? Leaving aside the sea, the answer to this question may perhaps be found in considering how far the racial requirements of the several combatants are satisfied.

The racial difference between the strong, heavy, flat-footed Teuton, and the rather slight, nervous and elastic Latin, is very marked; and each requires a different treatment to bring out to perfection his combative qualities. With personal courage which may be placed at par with that of the French, the German soldier has a different way of showing it. Less capable of enthusiasm, he loses in a great measure the advantage of those moments of mental excitement produced by a word from his superior, by a popular air, or by the many other means by which men on the battlefield can be hypnotized or can hypnotize each other; moments of actual madness, which make men forget all danger and which give them that irresistible dash which clever *condottieri* are so careful to excite, and which Napoleon I. himself created and used with such masterly art.

Certainly the slow, I might say cold-blooded, persistency of the Teuton is, in itself, an enormous force; but the time which it takes to act gives a

certain advantage to the quick and nervous Latin. I remember, for instance, the first of the three days of battle around Dijon, in January, 1871, when wave after wave of Germans threw themselves against the French lines. The old *condottiero* of more than forty battlefields, General Giuseppe Garibaldi, who commanded that wing of the French army, watched them as they came on like an irresistible tide, only to fall in heaps of dead and wounded; and as he watched with a countenance on which the most intense admiration was stamped, he broke out at last, "Ah, these are splendid soldiers, indeed!" And so they were. But later the same day, the same troops lost one-fifth of their men and half their officers, and were actually hustled out of the village of Messigny by an inferior number of irregular *Franc-tireurs,* who had crept close to them unseen, and dashed at them in gallant style.

It was certainly splendid two days later to see the Sixty-first Pomeranian Regiment moving across the plain, absolutely without cover, to attack the French position at Poully. Not a man was an inch out of place, except when the French bullets knocked them over. But it could only end as it did, by that splendid regiment losing a third of its effective men, and, worse still, its flag—the only flag lost by the German army in that campaign. I greatly doubt whether any Latin troops could have made such an attack. It proved the Teuton capable of a vast amount of discipline. But discipline so excessive does not admit of flurry or of hurry; and so, when met by a lively enemy who, though undisciplined, is led by a popular leader, discipline gets the worst of it, as was clearly shown when such famous generals as Werder and Manteufel not only failed to drive back the irregular forces under Garibaldi, but were very considerably harassed by his surprise *coups* of Chatillon-sur-Seine, Auxonne and Baigneux-les-Juifs, and were met and defeated on the battlefields of Talant, Messigny, Poully, Autun and Lantenay.

That arch-organizer, von Moltke, had planned and carried out even the minutest detail of that campaign in the best style and with the best discipline. But how sensitive the whole thing was! From its very perfection, it seemed more like delicate clockwork than rough warfare, as was shown by the general flutter in German military circles when the surprise of Chatillon took place. Even twenty days after, says the report of the German General Staff, some 30,000 troops were still being moved backwards and forward to "cover the threatened lines of communication."

Such facts as these put the reader in a position to judge between regulars and irregulars, and to see the advantage which the elasticity, resulting from want of excessive discipline, gives to irregulars when under the hand of a clever leader. Regulars are very often in the position of electric trams that

go perfectly under normal conditions, but are reduced to a helpless weight by being thrown even slightly out of gear. On the other hand, as even the official military mind has recognized since the Boer war, irregulars, when decently led, are tough and aggressive enough to defeat even the best regulars. For this reason the Latin, when roused by a popular leader, does not require the discipline necessary for the Teuton, in whom enthusiasm must be replaced by discipline, red-tape, and regulations. If, therefore, we accept the dictum of the French Minister that the German and French armies balance each other in organization, in number, and in a certain sort of discipline, we may conclude that the result of a war between the two countries would probably depend on a state of things over which red tape could have little influence, that is, on the existence of a leader of the French army suited to the peculiar temperament of the people.

We are now perhaps prepared to take into consideration the European situation in the midst of which a Franco-German war would be fought. The fate of the Old World has always been decided around the Mediterranean; and it seems a fatal necessity for every European race to battle for its supremacy. That the different nations of Europe possess even fragments of its shores is the main cause for such restless activity as that of France, England and Spain in Morocco; of France and England in Egypt; of Russia, England, France and Germany in Asia Minor; of Russia, Austria and Germany in European Turkey; of Austria, Germany, Russia and Italy in the Balkan peninsula and the Adriatic Sea, and of Italy, France and Germany in Tripoli and Cirenaica; not to mention the differing views of Italy and France as to Tunis, Corsica and Nice; of France and England as to the Balearic Isles; of Italy and England as to Malta; and of Greece and Turkey as to portions of the Turkish Empire.

"A pretty kettle of fish," the reader will say. So it is. And curiously enough, the difficulty of coming to any agreement over these questions enables potentates who are utterly opposed to Christian civilization to maintain their power on the Mediterranean. In fact, the Sheriff of Morocco and the Sultan of Turkey are safer on their thrones than the Czar of Russia or the Kaiser of Germany; for the disappearance of the two first would probably mean a European war over the division of the spoils, while the disappearance of the last would cause only internal disturbances in their respective states. But returning to the contestants over the Mediterranean basin, let us divide them into two groups: those who wish to become possessors, and those who are already in possession. In the first group may be classed Germany and Russia, in the second, France, England and Italy. This is at present the natural division of the European Powers, and this division will probably be the key to future contingencies in Europe.

At a semi-official banquet given at Dijon some eight or ten years ago, the writer ventured to prophesy that an alliance between England, France and Italy was the only arrangement capable of maintaining the peace of Europe. The present state of feeling between these countries, culminating in the warm receptions accorded to the heads of these states when any of them have visited the capitals of each other, proves that if this alliance is not already a fact, it is on the point of becoming so.

Almost the only reason which prevents the speedy culmination of this alliance of England, Italy and France, is the enormous amount of French money invested in Russian securities. It was certainly a great mistake on the part of Italy and England to have allowed France to feel her isolation so bitterly after the war of 1870-71. And Russia was wise enough to take advantage of this unfortunate position to draw from France, with a delusive show of friendship, the milliards of francs necessary for completing Russian internal organization. This chain, composed of enormous investments of French savings in Russian loans, is a heavy weight round the neck of France, a weight which deprives her of independent action; for no French Government would dare to face the loss which a rupture with Russia, and the consequent decline in Russian values, would entail on the French population. This state of things is very unfortunate for France. Did it not exist, she might already have placed herself between a friendly England and a friendly Italy, and so have found her long-desired opportunity to settle accounts with Germany. But the fact that there are still some small disagreements between these three states, may perhaps give France the time necessary to regain her independence of action with regard to Russia.

Of the disagreements in question, those between France and Italy are the cause of some dissatisfaction in the latter country. Italy has received no compensation, either material or moral, for the loss of Corsica, Nice and Tunis, not to mention Savoy; and if, at one moment, it seemed that commercial facilities might calm the Italian mind, a recent French law, raising the duties on food, gives so severe a blow to Italian exportations that it will take some time to reach a completely friendly understanding.

As for Italy and England, their friendship is unshadowed, except by the Maltese language question which the Cabinet at St. James' has allowed to appear on the horizon. This question was probably first raised by some pompous Anglo-Indian who, on his way to England, was ruffled by the fact that English was not the paramount language in the law courts of Malta. Subsequently there was sent to London an official report in which the heads of Maltese families were cited by the English officials as having expressed a preference for the use of English in the schools, as if these worthy fathers

were likely to give any answer but the one which they knew would please those in whose hands lay their future welfare. On such flimsy evidence, the English Government has acted in a way that seems likely to add to the sum of blunders that English statesmen have lately been accumulating.

Such blunders, however, can have no effect on the good understanding existing between the two countries, an understanding based, for one thing, on England's need of English aid. Italy is weakened by a very extended coast line, the defence of which would require a naval force beyond her power to create; she must look, therefore, for safety to the enormous fleet of England, a fleet whose constant readiness to help is proved by the following incident from Admiral Hewet's time. French feeling toward Italy being then acutely hostile, it was supposed that France meditated a descent on Italy's chief naval arsenal in the Gulf of Spezzia; and information was conveyed to Admiral Hewet, commanding the English Mediterranean fleet, to the effect that this descent was on the point of taking place. The worthy admiral, evidently acting on orders previously received, raced with his ironclads across the Mediterranean, only to be met at Genoa by Italian authorities who asked him in astonishment, "Where is the enemy?"

But if England's friendship is a necessity for Italy, Italy's friendship is no less a necessity for England, if she intends keeping in her own hands the route through the Suez canal to the East and to her Indian Empire. Even if exaggerated, the American news of the construction of a cannon which can send shell to a distance of thirty miles, and of another that will fire eight hundred one-pound bullets a minute, prepares the sentence of condemnation for Malta and Gibraltar. Given the above-mentioned guns, carried to a ten-inch calibre and firing only one hundred explosive shells a minute, and no fortifications, however cyclopean, could stand the tremendous pounding. It would, therefore, be only a question of time and opportunity for an active enemy to make it at least very difficult for the British ironclads to renew their coal and other necessaries, or to repair damages, at their Mediterranean naval bases.

Italy, on the other hand, is fortunate in possessing fortified ports such as Spezzia, Maddalena, and the Straits of Messina, as well as the Gulf of Naples, which can be defended from points at a distance from the docks, warehouses and other vulnerable parts. Her arsenals, consequently, are in so much less danger of being destroyed than are the exposed arsenals at Malta and Gibraltar. Thus her friendship is necessary to a state which has enormous interests in keeping open the Mediterranean route to India. The fact that, while the interests of England and Italy do not clash, each country needs the naval power of the other, makes their unwritten dual alliance the strongest alliance existing. In joining it, France, with the

glorious traditions of her revolution, will not only find a much more sympathetic atmosphere than in the brutal autocracy of her Russian ally, but will also be better able to further her fixed idea of a war of revenge.

Such a war would, in fact, be popular in both England and Italy. Both states have something to gain by it. Italy might retake her lost provinces Trent, Trieste, Istria and Dalmatia, and with them the hegemony of the Adriatic Sea; and England doubtless would watch with pleasure a war that might lessen the fierce aggressiveness of her true enemies, Germany and Russia.

I have endeavored to place before my readers the Franco-German situation in its relation to the peace of Europe. They themselves will judge of the probable outcome.

PARIS OF YESTERDAY, AND PARIS OF TO-DAY

ANDRÉ HALLAYS

PARIS

NO TOWN of Europe has undergone such profound transformations as those which, for the past hundred years, have changed the face of Paris. I am not now speaking of manners, but merely of the look of the streets, of the views and of the various styles of architecture. The nineteenth century saw new cities, like Berlin or Pesth, develop with marvelous rapidity; but at Berlin as at Pesth, the old town was an almost insignificant nucleus around which a modern town was abruptly formed. Very little was demolished; but there was constant building on a new plan. At Paris, on the contrary, it was necessary to adapt a large old city to the needs of an indefinitely increasing population. From 1800 to 1900 the total number of Parisians grew more than five-fold, whereas the area of the city was not even tripled.[1]

I.

At the same time that the population increased, the orders of health officers made the ventilation and sanitation of the old quarters obligatory, and commerce and industry demanded streets through which there might be quicker traffic. Thus there was and as yet has been no pause in working over the plan of the city, in straightening crooked streets, in opening direct great avenues, in renewing, from end to end, the decoration of the capital. It was under the first Empire that the metamorphosis of Paris began. It was then a question of putting to use the vast sites left free by the convents just suppressed by the Revolution; the Rue de Rivoli, which dates from this period, is the first of the great highways of modern Paris. But until the reign of Napoleon III. these works were pushed slowly. Under the second Empire the great building fever broke out which turned Paris topsy-turvy. Then, in all directions, old quarters were ripped up. The plan of a modern city was drawn and superposed upon the plan of the old-time city. It was ruthlessly adhered to.

The events of 1870 and 1871 interrupted, for a few years at most, the undertaking conceived by Haussmann, prefect of the Seine under Napoleon III. As soon as the traces of the war and the marks of fire had been removed, the process of tearing down, destroying and rebuilding began again. Moreover, from one decade to another, the constantly recurring World's Fairs altered the whole aspect of the western part of the city, and bequeathed to Paris certain of the buildings put up for each international holiday. The Exposition of 1855 left the *Palais de l'Industrie* on the *Champs*

[1] The area of old Paris was formerly 3402 hectares (13,135 + sq. m.); since 1860, by the annexation of various suburbs, it has become 7802 (30.124 + sq. m.)

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Elysées. That of 1878 brought Paris the gardens of the *Trocadèro* and the Palace overlooking them. That of 1889 caused the erection of the Eiffel Tower. In 1900 Paris fell heir to a bridge, two palaces and a new avenue; but at the same time it lost the *Palais de l'Industrie.*

Thus for about fifty years sanitary progress, industrial development, the fury of speculation and enterprises connected with World's Fairs condemned Parisians to life in the midst of demolished buildings and of construction sheds. Some finally became used to it, others realizing that modern life has certain unavoidable necessities, long since resigned themselves.

But for some years a new public feeling has begun to appear. On all sides people are asking themselves, as they look about them, whether these famous " necessities of modern life " really demand so much destruction and ruin. It has become evident that without reason, often even without pretext, some of the most admirable views of Paris have been sacrificed or impaired. Without slighting the rules of hygiene and the needs of quick traffic, people are beginning to talk of the rules and the needs of taste. " City æsthetics," a happy phrase, invented, I believe, by M. Buls, once Burgomaster of Brussels, quickly found favor. As early as 1885 a society was formed for the purpose of protecting the monuments of Paris, the *Société des Amis des Monuments Parisiens.* From the beginning it has always made energetic protests against all attempts at vandalism, protests which we must admit have sometimes been vain. Three years ago the municipal council of Paris established a consulting committee, called the Committee of Old Paris. It is made up of city councillors, officials, literary men, and archæologists; its business is to protect all the landmarks and memorials of the town. In various quarters of Paris small local societies have been founded to watch more particularly over the aspect and the monuments of special parts of the capital. During the World's Fair of 1900, an International Congress of Public Art met under the auspices of the municipality of Paris. Both newspapers and reviews, moreover, are now ready to receive the complaints of Parisians who are weary of seeing their city at the mercy of speculators and destroyers.

To-day the fight is on between the Vandals and the friends of Paris. The former are certainly better armed; they generally have on their side the support of public authority; they can invoke, as an argument, the semblance of immediate utility; they are helped by the apathy of the majority of citizens. The rest can meet them merely with reasons based on good taste and good sense; and as they always seem to be defending the interests of the aristocracy, democracy suspects them as soon as it hears of them, as if it were not in keeping with the principles of genuine democracy to wish that

the street in which every one passes should remain a joy to the eye and a school of good taste.

II.

"We are not archæologists," say the defenders of the beauty of Paris; "we should be far from willing to stop the free development of our city merely for the sake of a few old stones." Such sentimentality would never be understood by the masses; and on this point let us recognize that the masses would be wholly right.

Under pain of death cities must be transformed. Admirable places for reverie are Bruges and Ravenna, where our imagination may enjoy noble and delicate delights. They are dead towns where for a few hours one loves to breath the pure perfume of the past. But it is natural that the fate of Bruges or of Ravenna should rouse but little jealousy, and that a man should wish another destiny for his native city.

Yet in Paris, as in all old cities, we wish the modern town to be built without disfiguring that of our ancestors. The soul of a city is fashioned, in some measure, by the genius of its inhabitants, the formation of the ground, the light of heaven and the vicissitude of history. It is the duty of citizens to respect that ancient soul in its most beautiful and characteristic works.

The problem is delicate. With a little good-will, however, it is not insoluble. In every old city the centre of social life has been displaced from age to age. A mysterious law governs this movement; all the great cities of Europe are advancing towards the setting sun. Paris began as a Gallic borough shut up on an island of the Seine. Little by little, it stretched along both banks of the river through all the Middle Ages. Then it grew towards the West, and built in that direction the palace of its Kings, the Louvre. For a time during the seventeenth century, it receded towards the East (it was then that the Marais quarter was beautified), but soon it resumed its normal advance. On the left bank it created the Faubourg Saint-Germain, on the right bank the Faubourg Saint-Honoré; in the nineteenth century, pushing ever towards the West, it reached the age of the Bois de Boulogne. Thus, from century to century, both old and new quarters took form on the map of the city.

When the idea of modernizing Paris first came up, the following plan might have been followed; to let air and light penetrate the old quarters, so as to make them habitable for the men of to-day; but to carry out those changes prudently, without altering the historic aspect of the streets and squares, and above all in those districts to avoid too modern architectural effects, too glaring incongruities; in the new quarters, on the contrary, to

try to realize the ideal of the modern city with the utmost possible comfort and elegance. But the work was done haphazard, without any prearranged plan; the old quarters were ripped up; venerable or interesting monuments, which told passers-by the history of Paris and of France, were torn down; certain beautiful aspects of the city, views that had become almost traditional, were sacrificed to the superstition of straight lines; and yet by a strange contradiction, while the old mansions of the seventeenth and of the eighteenth centuries were torn down, they were revived in imitations throughout the new quarters. In old Paris, modernity reigned; in new Paris, archæology.

Against these aberrations we protest. There is still time. For however great the activity displayed for half a century by engineers, destroyers, architects and speculators, they have not yet ruined the beauty of Paris, and abolished the traditions of good taste. In spite of everything, the grace of the Seine, the softness of the sky, the splendor of the foliage, the magnificence of the palaces and churches have until now preserved for the city nearly all its olden charm. Those who love Paris have still a hundred reasons for loving her; but if they are not alert, the Vandals will soon have taken from them the best of all those reasons, namely, that Paris adds the elegance of a great modern city to the charm of a very old town, and that the life of to-day in Paris is made more beautiful and delicate by the constant spectacle of the elegance of the past.

III.

Let us illustrate, by a few examples, the main ideas of this Parisian plea *pro domo sua.*

The great monuments of the past, the glory of Paris, were spared when, fifty years ago, the general plan of the modern city was conceived; and now they are no longer threatened with ruin. Though they have been restored with a hardihood which at times has slightly disfigured them, they have been "classed," that is to say, put under the protection of the law. We are all but certain that they will never be torn down. Moreover, they are used for public purposes, and their maintenance is assured. They might perhaps be better defended against the vagaries of those who live in them, by not permitting wooden blinds to be hung on the Louis Quatorze fronts of the palace of the Louvre, and by not tolerating a forest of chimneys or hanging gardens above the terraces of those two marvelous pavilions erected by Gabriel on the *Place de la Concorde.* But such details are of little enough importance. The great monuments of Paris are safe. If public taste some day proves itself more scrupulous, these blemishes will vanish.

The great peril for the beauty of Paris is commercial publicity, that

great leprosy of signs and placards covering all, even the most beautiful, buildings of the capital. When these debaucheries of advertising take place in wholly modern streets, the fronts of whose houses are utterly lacking in style, we console ourselves readily; sometimes these color-medleys are an unobjectionable break in the monotony of bare and graceless stretches of real estate. But the most elegant quarters and the most magnificent squares of Paris are now profaned, by day with frightful placards and by night with luminous signs. What is left of the old city is disappearing behind the painted canvases and the gilt lettering of commercial houses.

Among the most individual beauties of Paris are three magnificent squares, which tell passers-by the history of two centuries of French art; the *Place des Vosges,* the *Place Vendome,* and the *Place de la Concorde.* These are three architectural wholes, each of which, by the harmony of its lines and of its coloring, calls to mind the taste and the manners of the time when it was built. At the end of the reign of Henry IV., the *Place des Vosges,* the former *Place Royal,* was constructed on a uniform plan which is a model of elegance; the handsome fronts of brick and of stone, the high tiled roofs, the delightful walk that surrounds the square, are the highest efforts of the purely French taste before the invasion of the Greco-Roman. First put up to shelter workmen and merchants, under Louis XIII. and Louis XIV., these charming houses became the dwellings of the French nobility, who felt that in the Faubourg Saint Honoré they were too near the Louvre, that is to say, too near the King. On the *Place Royale,* festivals, duels, rendezvous and insurrections occurred. There, in the seventeenth century, princes, poets and courtesans were to be met. There, Richelieu was seen passing and the great Condé, Corneille, the Duke de la Rochefoucauld, Marion de Lorne, Saint Vincent de Paul, Ninon de Lenclos, Molière, Madame de Longeuville, Françoise d'Aubigné and Turenne. Such memories as these make this square one of the sacred places of our history. The *Place Vendome* is the work of Louis XIV. The plans were drawn by Mansard, the architect of the palace of Versailles. With its splendid symmetry, its Corinthian ornamentation, its classic pediments adorned with the arms of France, it expresses admirably the cold and majestic solemnity of the " great century."

Finally the *Place de la Concorde* and the *Rue Royal* were conceived by the greatest of eighteenth century architects, Gabriel. The two pavilions which rise to the north of the square, with their delicate colonnades, are miracles of elegance. It was on the *Place Louis XV.,* now the *Place de la Revolution,* that the Reign of Terror set up the guillotine.

To understand all the history of the city, and to follow, as if in an outline, the destination of the French monarchy, it is therefore enough to trav-

erse Paris from east to west and to pause for a few moments on each of these squares. But above all, these three halting places are enough to give us an understanding of the evolution of French taste. Big volumes of æsthetics could not teach us more. Such characteristic fronts are the richest and clearest of lessons for all the people, at the same time that they are an unequalled ornament for the city. The Kings who created these three marvelous wholes felt the full value of the beauty with which they were endowing Paris, and they decreed that the lines and the aspects conceived by their architects should be respected forever. They expressed their will in the acts by which the buildings were authorized. To-day their wills are slighted. Without doubt the fronts themselves have not been greatly altered. But merchants have installed themselves in the old houses and have dishonored them with their shops and their signs. The *Place des Vosges* alone is almost free from the scourge; life has withdrawn from this now silent quarter; there passers-by are rare; advertisements, which would appeal to no one, are not placarded in these half-abandoned parts. The *Place Vendome* has been recently invaded by dressmakers, milliners, and hotelkeepers; an attempt is being made to limit their ravages and to oblige them to post their names in the windows only; but every day the audacity of the merchants grows greater, and the work of Mansard is already impaired. It is in the *Rue Royal* that commercial publicity commits its gravest crimes. Of late years the look of the house-fronts has been pitifully changed. The houses, formerly inhabited by private citizens, have become the prey of traders. If we are not on the alert, all charm will soon be taken from that beautiful street, which at sunset, when the crowd of carriages returns from the *Bois de Boulogne* and the *Champs Elysées,* is like a triumphal highway of elegance.

If we have taken as examples these three great squares of Paris, it is by no means because the signs and advertisements are inoffensive elsewhere, but because nowhere are they so disastrous, nowhere do we feel so imperiously the need of protection from traffickers, the glory and the beauty of the city.

IV.

Paris is proud of the trees which adorn its boulevards, its avenues and its quays. Doubtless its parks and squares cannot rival the parks of London; they are of only moderate size; and in keeping with the architecture of French monuments, they are generally regular in design and richer in flowers than in shade trees and greensward. But no European town possesses so many plots of trees scattered among the squares and along the streets. The number of trees which border the highways of Paris is now

about ninety thousand. It was under the second Empire that this adornment of the city with verdure was begun. The Paris of former days was full of immense gardens belonging to all the palaces and mansions. They disappeared in great part when the building fever revived. Speculators divided them into building lots; and in place of the flower gardens and groves, investors' houses sprang up. People then saw that by clearing away the trees of Paris they would make it unhealthy and uninhabitable; and to make good the great devastation they planted trees all along the avenues cut through the old city.

The Parisians love their chestnut trees, their elms and their plane-trees, for the cheerfulness they give the public highways, for the refreshing coolness that they afford pedestrians in the dog-days, and perhaps, also, for the friendly curtain of verdure with which they hide the ugliness of our modern buildings. They know very well that this is the charm of their city, the charm which wins and holds their foreign guests. Accordingly they grow indignant whenever it is proposed to hurt their trees.

To tell the truth, such indignation does not always disarm the public officials and engineers. To locate a railway station, not long ago, they uprooted some of the fine trees which used to ornament the Esplanade of the *Invalides*. This crime stirred up a great deal of anger, but the station was built nevertheless; and now that the World's Fair buildings, temporarily erected there, are down, we can measure the full extent of the disaster. Still more lately, to establish a railroad under the quays of the left bank of the Seine, the poplars which shaded the public highway were torn up; the delicate perspective of the river banks has consequently suffered irreparable harm. Finally, the buildings of the last Exposition despoiled several Parisian avenues of their trees.

On these various occasions the complaints of the citizens were in vain, but at the least they made the engineers more prudent for the future. The officials have tried to deserve pardon for their ravages by increasing the number of trees planted elsewhere. To-day it is no longer questioned that, to be beautiful and healthy, a modern city must be full of shade trees. Here sanitary experts and artists are of one mind. Such a union, without which nothing lasting can be established, should be the starting point in the transformation of every old city.

V.

On two more points it is important that science and æsthetics should come to an agreement.

Science must come to the aid of æsthetics by finding a way to free the atmosphere of Paris from the smoke and the soot that poison it. It is use-

less to restore the monuments of the past, and to employ the talents of sculptors to decorate the monuments of to-day, if we cannot succeed in preserving edifices from the abominations which float in the city air. From the numberless factories which surround Paris on all sides, there rises a wretched vapor which covers house-fronts and statues with an oily gray coating, and stains and eats into the stones. The development of industry will soon completely ruin every sort of architecture and ornament, unless some chemist thinks out a process of cleansing the air of great cities and driving out of it these murderous pollutions.

On the other hand, traffic, daily more active, must no longer force us into constant demolitions. In proportion as the population increases, as Paris, a commercial and industrial centre, sees its importance augment, and as the fever of business grows hotter, the streets are daily more encumbered with vehicles of all kinds, trams, omnibuses, automobiles. Until to-day the only cure seemed to be in multiplying the great highways, and so all these charming quarters, all these precious monuments have fallen under the destroyer's pick. Science, then, must deprive the Vandals of their great argument, the irresistible forward trend of the modern movement. In Paris the problem has not yet been solved; but we are at work in the right direction. The great success of the first section of the metropolitan subway shows clearly that the true means of clearing the streets of some of the vehicles which block them has been discovered. When the entire system is built, when the subsoil of the city is furrowed in every direction by express trains, the public highways will grow freer; they will suffice for the passage of the trams and carriages; and to make new gaps through Paris it will no longer be possible to cite the needs of traffic. After having been enemies of Paris, the engineers to-day, and perhaps against their will, are becoming its best defenders.

VI.

From this brief sketch of the transformation of modern Paris I should be sorry to have anyone receive too pessimistic an impression. Those who are devoted to the beauty of their city are still few. I have told their reasons for complaint and anxiety. But from certain indications, to some of which I have called attention, we can see that their ideas are beginning to spread.

Vestiges of old Paris that seemed doomed to destruction have been saved. A year ago, as one of the old mansions of the *Ile de Saint Louis,* the Lauzun mansion, was about to be offered for sale, the city of Paris acquired it, thus preserving a house that is precious for the historic memories it calls up and, still more, for the beautiful seventeenth century decorations that

cover its walls. Scarcely a few months ago, there was talk of tearing down the De Rohan mansion, a state property containing some charming paintings by Huet and an admirable *bas-relief* by Le Lorrain; the decorations and sculpture would have been moved to a museum; then the famous dwelling of the cardinals of the eighteenth century would have been destroyed. This plan was abandoned; the works of art will remain in their place. These victories of good sense and of good taste are a happy augury.

It seems that all of us, with one accord, are giving up the idea of great World's Fairs. Whatever our decision as to their economic utility and their social results, we really must admit that these speculative enterprises have been unlucky for the beauty of Paris. They had the charm of ephemeral things, but they prevented the execution of a well-considered plan for the development of the city. Every ten years a new treatment was improvised without first being worked out; and things at first provisional, afterwards became permanent. It is good that we are now done with such incoherent conceptions. What is more, a plan of a garden and park is being prepared which, if tastefully carried out, will transform that traditional stage of expositions, the *Champs de Mars,* and enrich the city with a fine promenade. The formidable iron framework of the Machinery Building will be taken to pieces, and that masterpiece of Gabriel, the pretty front of the Military School, will at last be brought into view with a proper setting.

The passion for the city's honor which animates a few Parisians is little by little becoming contagious. Great crimes have been committed against the beauty of Paris; doubtless still a few will be committed. But a wholly new feeling, which we may call the æsthetic sense, is slowly being awakened. In some men it is by no means a spontaneous revolt of good taste outraged by ugliness, it is rather an intuitive perception of the truth that things beautiful are of public utility, and that to protect the remains of the past in very old towns is to take thought for the future by insuring the vitality of their traditions.

WATERWAYS IN EUROPE

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PART II.

THE recognition of the importance of waterways has called forth keen rivalry on the part of the nations of Europe in adapting existing waterways to modern requirements. These endeavors became conspicuously visible at first in the great canal bill of Germany, in accordance with which German waterways are to be made into a network, the like of which it would be difficult to find. Austria soon followed by adopting a canal bill, which is designed to grapple with entirely new problems of a technical nature, inasmuch as the great differences in height throughout the mountainous regions necessitate the employment of extraordinary machinery. France was the next country to provide for the systematic development of its waterways on a large scale. In Russia also, long-cherished wishes and plans are approaching realization,—plans concerned chiefly with the construction of a canal for sea-ships connecting the Baltic and the Black Sea; the scheme of a trans-Siberian canal to the Pacific Ocean has likewise been discussed. The establishment of a system of canals in Hungary is only a question of time, and serious attention has been given to related projects of wide scope. We thus note a feverish activity in the field of waterways from the Atlantic and the Mediterranean to the eastern-most boundaries of Europe and even beyond them, across Asia to the Pacific.

The New Prussian Canal Bill

According to the original bill, providing for a ship canal from the Rhine to the Weser and the Elbe, which the Prussian Government presented to the Chamber of Deputies on March 14, 1899, the cost was estimated at about sixty-five million dollars. In consequence of the opposition of the Agrarians, and the representatives of several parts of the country, who apprehended that this project would bring a change in the commercial conditions deleterious to their interests, the original plan was modified by a proper consideration of all satisfactory claims, and upon this basis a new "bill for the construction and improvement of canals and river-courses in the interests of navigation and agriculture" was drafted, in accordance with which the costs were increased to 397,060,700 marks, almost $100,000,000.

According to the terms of this bill, the Government is to be empowered

I. To construct or improve the following waterways:
A ship canal connecting the Rhine, the Weser, and the Elbe (Rhine-Elbe canal), consisting of—

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(a) a ship canal from the Rhine near Laar to the Dortmund-Ems canal at Herne (Dortmund-Rhine canal);

(b) various improvements on the Dortmund-Ems canal to Bevergern;

(c) a ship canal from the Dortmund-Ems canal at Bevergern to the Elbe at Heinrichsberg below Magdeburg (Midland canal), with branch canals to Osnabrück, Minden, Wülfe, Hildesheim, Lehrte, Peine and Madgeburg, including the canalization of the Weser from Minden to Hameln.

A waterway for large vessels from Berlin to Stettin (Berlin-Hohensaaten waterway).

The waterway between the Oder and the Vistula, as well as the waterway of the Warthe from the mouth of the Netze to Posen.

The waterway between Silesia and the Oder-Spree canal.

II. To assist in the improvement of the fore-tide of the lower Oder; of the fore-tide and shipping conditions of the lower Havel; the improvement of the Spree.

The Government appropriation is to be 389,010,700 marks of the total of 397,060,700 marks; the remainder of the 8,050,000 marks is to be raised by the parties interested in the items named under section 2. The latter also guarantee payment of the principal up to 117,553,310 marks, and interest thereon, as well as the costs of maintenance in so far as these are not —up to certain amounts—covered by the receipts.

The most important item of the bill is the Midland canal, which must be regarded as the future backbone and main connecting link of the German rivers and canals. The Rhine, Weser, Elbe, Oder and Vistula can be easily connected, as there is, indeed, already a connection between the Elbe, Oder and Vistula in the east, and the gap still existing between the Rhine, Weser and Elbe in the west is now to be closed by a wide waterway for ships of 600 tons, which will be navigable also by vessels propelled by machinery. This canal joining the Rhine and the Elbe is to consist of a canal from Dortmund to the Rhine, of improvements along the existing Dortmund-Ems canal, and of the Midland canal, which is to branch off from the Dortmund-Ems canal at Bevergern, pass along the northern boundary of the middle German hills, cross the Weser at Minden and flow into the Elbe at Heinrichsberg below Madgeburg.

All the conditions affecting this undertaking are extremely favorable, since the canal runs along an even grade from Münster to a point east of Hanover, a distance of 210 kilometers; here it rises by means of a lock to the highest grade, a stretch of about 100 kilometers, and then descends with the aid of five locks to the Elbe at Heinrichsberg. No additional

locks are needed, except for the branch canals and for the descent to the Weser at Minden. By means of the canalization of the Weser from Hameln past Minden to Bremen, the latter port is connected with the entire system of German waterways and will undoubtedly reap great benefits from this union. For this reason the canalization mentioned will be conducted at the expense of the city of Bremen. It is to be extended over 200 kilometers, and there will be twenty-five locks within this distance. The sections through which the Rhine-Elbe canal is to pass are among the best developed in all Germany. There are populous centres of industry, coal mines, blast furnaces, iron works and steel plants, foundries, machine factories, bridge-building establishments, dockyards and numerous factories of all sorts, and in addition one of the most extensive railroad systems of the world operates in this industrial section; but it is no longer able to handle the ever-increasing traffic.

The proposed waterway for large vessels between Berlin and Stettin is also intended for vessels of 600 tons' capacity, and it is expected that its construction will bring increased prosperity to the city of Stettin. In order to accomplish the desired result, the Pramenburg and Finow canal is to be widened and at Hohensaaten conducted to the Oder, the channel of which river is to be improved from this point on down to Stettin. Eastward of the Elbe and the Stettin route the waterways are to be adapted to vessels of only 400 tons' capacity, which is sufficient to meet all demands in the eastern section of the country. The waterway from the Oder to the Vistula is to be made to conform to these new conditions by improvements of the Warthe, the Netze, and the Bromberg canal. Finally, the upper Silesian coal region and industrial section is to be connected with Berlin and the German waterway system by improving the channel of the Oder from the mouth of the Neisse down to the union of the Oder with the Oder-Spree canal at Fürstenfelde. From Cosel down to the mouth of the Neisse the Oder is already sufficiently well canalized. The improvements are to consist in canalization and further regulation, and in collecting sediment in extensive basins.

The canal bill is intended to promote the economical *rapprochement* of western and eastern Germany and at the same time to increase the capability of the country in competing with foreign nations by lowering freight rates on these waterways which are to be improved or constructed. The freight rates of the Prussian railways averaged 3.63 pfennige per ton-kilometer in 1898, coal 2.49 pfennige. The rates of the waterways are to average 1.9 pfennige for the Dortmund-Ems canal, 1.25 pfennige for the Midland canal, 1.1 pfennige for the remaining waterways. The following figures will serve as an illustration of the advantages to be gained: The

transportation of coal from Herne to Mannheim at present costs 8.2 marks, in future it is to cost 4.1 marks, just half; coal from Königshütte to Berlin 10.52 marks, in future 6.6 marks; grain from Posen to Berlin 10.3 marks, in future 5 marks, less than half. The new waterways will by reason of these low rates of transportation create new industries and new values and thereby powerfully enhance the prosperity and the economical development of Germany.

The New French Waterway Project

In spite of the extremely favorable results obtained by the waterways constructed or improved in accordance with the plan proposed by de Freycinet, the French soon recognized the fact that their waterways had reached the limit of their utility and that a further development was absolutely necessary to prevent a sensible stagnation of trade and commerce. A new scheme was therefore worked out with great care, which clearly recognized the necessity of the construction of up-to-date through waterways along the chief arteries of natural commerce, and assured the financial success of this rational system without regard to less important connections more local in character. In the same way only those seaports were chosen for further development, which are connected organically with these chief arteries. In place of the previous dissipation of means for numerous objects, we now have to deal with a logical selection and a systematic development of the recognized leading highways of commerce. In accordance with this vital change in method, de Freycinet's plan of 1879 was submitted to a new critical revision.

A mere glance at the river-map of France will convince one that a tremendous line of trade running from north to south exists or should exist, which, beginning at Dunkirk, passes along the canals of the Pas de Calais and the canal from the Marne to the Saône, and then, following the Saône and the Rhône in an arc to the east, passes into the Mediterranean at Marseilles. From this main artery, three smaller arteries should branch off, namely, along the valleys of the Seine, the Loire and the Garonne, respectively. This system, if actually completed in accordance with modern advanced ideas of marine engineering, would respond perfectly to the trade currents of France, and to the international trade currents which it is in the interests of France to develop. Unfortunately, however, a great deal is in reality lacking for this ideal condition, and consequently the new French waterway bill is designed to approach it as closely as possible.

A principle of economical strategy demands that all efforts be concentrated upon a few well-chosen points to which every conceivable means of communication should be conducted, from without by means of large ports

of entry and into the interior by fortuitous combinations of waterways and railroads. Adopting this principle, the new plan embraces only five waterways and ten seaports to be improved and ten new waterways to be constructed. These twenty-five waterways, perhaps, will appear too scattered, particularly when we remember that the competitors of France have sought for the most part to strengthen two or three factors of their economical equipment. On closer scrutiny, however, we discover that several of the divisions taken together in reality constitute a uniform group, so that, after all, they are not too scattered.

The proposed undertaking consists of the following:

A.—The improvement of existing waterways, the canals between Dunkirk and the Scheldt, and the Deule and the Aire canals; leading the Scarpe around Douai, deepening the channel of the Seine from Paris to Rouen to 3.2 metres navigable depth; further improving the low-water regulation of the Rhône between Lyons and the sea in order to assure a depth of 1.25 metres even at the lowest low water; widening the Canal du Midi so that two vessels can pass each other, and regulating the Garonne, all at a cost of 41,000,000 francs.

B.—The building of new waterways, the Chiers canal of 85 kilometres to connect Dunkirk with the northern coal region, the Scheldt-Maas canal of 154 kilometres to connect the northern coal region with the eastern industrial and mining districts, the North canal of 94 kilometres to relieve the canal of St. Quentin, which with a traffic of 5,000,000 tons has reached the limit of its utility; lengthening the Ourcq canal by 43 kilometres; regulating the Loire at low-water for a distance of 84 kilometres between Nantes and Angers; lengthening the existing Orleans canal by five kilometres; constructing a canal of 49 kilometres from Moulins to Sancoins, the Loire-Rhône canal of 130 kilometres for the benefit of the city of St. Etienne, a canal from Marseilles to the Rhône and another from Cette to the Rhône, at a total cost of 456,640,000 francs.

C.—The construction of seaports at a cost of 113,180,000 francs. The total sum to be expended upon these new plans will be 610,820,000 francs.

Of the waterways to be newly constructed the Northwest canal, which leads from the Luxemburg boundary to the neighborhood of Douai, is of great importance. It consists of the Chiers canal and the Scheldt-Maas canal, and is to be constructed at a total cost of 131,000,000 francs. The Canal de Chiers is 85 kilometres long, 11 metres wide at the bottom, and to overcome a difference in height of 101 metres, is to have 31 locks, with 2.2 metres deep. The Scheldt-Maas canal is 154 kilometres long, 11 metres wide at the bottom, and 2.5 metres deep. The former, which has a lift of from 2.7 to 3.6 metres; the latter 56 locks, with a lift of 4 metres

to overcome 220 metres. The canals are to be fed partly by reservoirs, partly by pumping plants.

The Canal du Nord is intended to relieve the Canal of St. Quentin, which forms the chief route of commerce, particularly for coal, between northern France and the Oise and Paris. The canal will have two new sections, from Arleux to Peronne (45 kilometres) and from Ham to Noyon (24 kilometres), as well as a tunnel (5,000 metres long) and 30 locks with a lift of 4 metres each; for the latter, 20 locks with a lift of 5.7 metres each may be substituted. The first section will be fed by pumping 2 cubic metres of water per second from the swamps of the Sensée, the second from the Somme, or by pumping from the Oise. Furthermore, other sections of the Canal du Nord are to be made wide enough for tow-vessels, whereby the canal will be enabled to handle a trade of seven or eight million tons. It has at present, as pointed out above, reached the limit of its utility with 5,000,000 tons, and now 60,000,000 francs have been provided for this part of the enterprise.

Only minor changes are to be made in the basin of the Seine. The Loire, from Nantes to Angers, is to be made accessible to flat-bottomed ships of from 1.20 to 1.50 metres draught, in order that the shipping of this central river section of France may be improved. The Canal du Midi and the branch canal of the Garonne constitute a waterway between the Atlantic and the Mediterranean. They were repurchased by the Government in 1898 and are to be improved. At the same time the Garonne, which is only 1 metre deep, is to be so regulated as to accommodate the vessels with a draught of 1.8 metres of the Canal du Midi. The canal from the Loire to the Rhône is 130 kilometres long, 18 metres wide at the bottom and 2.2 metres deep; it is to cost 123,000,000 francs. The difference in height amounting to 557 metres (220 + 337) is to be overcome by locks with a lift of 11 metres provided with reservoirs and two mechanical lifting machines 21 metres in height. A great many technical difficulties will be encountered in the construction of this canal, which is to pass through the industrial district of St. Etienne and empty into the Rhône south of Lyons, and the surmounting of these obstacles will involve the building of costly works of engineering, especially tunnels, one of which is to be 5,700 metres in length.

The most extensive harbor improvements are to be made at Marseilles at a cost of 34,000,000 francs, to enable this port to accommodate ocean-vessels of the largest type. The harbor of Dunkirk, upon which 58,000,000 francs have been expended since 1879, is to be enlarged by two basins at a cost of 26,000,000 francs. In order to accommodate the largest ocean-vessel, new landing-quays and a lock of 190 metres' available length, 22

metres' width and 8 metres' depth, are to be constructed in the harbor of Havre at a cost of 20,000,000 francs. In Bordeaux a new basin, landing-places, and a dry-dock were erected at a total cost of 13,000,000 francs. Additional improvements have been planned for the harbors of Boulogne, Dieppe, Rouen, St. Nazaire, Nantes, Bayonne, and Cette.

A comparison of the present standing of France in international commerce with the recent advances made more particularly by Germany, England and the United States, proves conclusively that it is high time for France to increase her trade by improving her means of communication. The value of the goods imported and exported by these four countries during the past fifteen years amounted in million francs to—

	1885	1900
France	7,177	8,487
Germany	7,382	12,463
England	16,060	20,377
United States	6,520	11,219

The increase, therefore, amounted in France to 1,310,000,000 francs or 18 per cent., in Germany to 5,081,000,000 francs or 69 per cent, in England to 4,317,000,000 francs or 29 per cent., and in the United States to 5,699,000,000 francs or 87 per cent.; whence we see that the commerce of France has failed absolutely to keep pace with that of the other three countries mentioned. Aimond, in his excellent report on the French waterway bill, expresses the hope that France will once more occupy the proud position she formerly held among the nations of the world, and maintains that only by a complete reform of methods of industry and commerce can France attain this end. France, he claims, has taken too little trouble to study the conditions and customs of foreign markets; the French commercial formula is antiquated, while that of other nations, especially Germany, is modern.

A strong retrogression is noticeable in the French ports, due on the one hand to the fact that the connection between the manufacturer or dealer and the foreign producer is daily becoming more direct and consequently ports serve more and more for through traffic, on the other to the falling off of French shipping; 77 per cent. of the foreign trade of France is carried in foreign ships. Only by giving an impetus to shipping and by improving the waterways, whereby opportunities for cheaper transportation will be furnished, can France expect its commerce to take a new lease of life, and the situation was fully realized by the people, inasmuch as the cleverly constructed plans of the Government were adopted by the whole nation almost unanimously in an incredibly short space of time.

The Austrian Waterway Plans

The continued progress in the development of waterways in neighboring countries caused Austria to recognize more and more clearly the necessity of providing cheap waterways for its own trade. The chief interest was taken in a canal from the Danube through the March to the Oder in the direction Vienna-Prerau-Oderberg, but the financial disaster of the year 1873 prevented the carrying out of the plans that had been promoted by the Anglo Bank. In fact, it would be difficult to find another canal for the construction of which the conditions were so favorable as they were for the Danube-Oder canal. It was only natural to suppose that a strenuous effort would be made to establish a cheap means of communication between the Moravian-Silesian coal basin, with its rich mines and industries on the one side, and Vienna, the capital city and an important industrial centre. It was reasonable also to expect that such a canal passing through Moravia and Lower Austria would exert a beneficial influence upon the industry and agriculture of these districts, and would call industries into being which formerly had not been able to exist on account of the high cost of raw products, especially coal, and the pressure of foreign competition. By reason of the low tariffs on the German waterways, German products could be brought to the Austrian boundaries at prices with which the Austrian products could not satisfactorily compete on account of the high rates of railroad transportation. On the other hand, the possibility of successful competition in case of a lowering of the costs of transportation by the construction of waterways was demonstrated by exact figures.

The connection of this important Austrian canal from Vienna to Oderberg with the Elbe by means of the canal from Prerau to Pardubitz, was a foregone conclusion. The canalization of the Elbe for vessels of 600 tons between Pardubitz and Melnik down to Aussig is already in progress, and upon its completion the road to Hamburg and the German Ocean will lie open to river-vessels and canal-boats. A further connection of the Danube-Oder canal with the Vistula, the San, and the Dniester is absolutely desirable in the interests of the kingdom of Galicia, which has remained rather backward in industry and agriculture, although it is capable of development. The canal is to provide for an exchange of Galician raw products with the manufactures of the West, and by cheapening the transportation and consequently the price of coal, furnish Galician industry an opportunity to develop. The connection of Vienna with the Elbe can be made expediently by way of Budweis and the Moldau. By this means the products of the North Bohemian brown-coal basin, which are at present sent from Aussig down the Elbe chiefly to Saxony and Prussia, can be applied to home industries. Accordingly, a canal is to be built from Vienna to Budweis, the Danube-Moldau-Elbe canal, and the Moldau is to be canalized from Bud-

weis to Prague. Finally a canal from Linz to Budweis has been proposed, which would establish the shortest connection between Prague and Linz.

The chief connecting link for all these proposed artificial ship canals and canalized rivers is to be the Danube, which must be able to accommodate canal-boats with a minimum draught of 1.80 metres even at the lowest water. Similarly the typical Danube ships, with a capacity of 600 tons, must be able to ply on the river with a full cargo and a draught of 1.80 metres, in order that they may make full use of the new canals on their further journeys. Speaking broadly, the Danube at present responds to the demands made upon it only in Hungary, where the lift is small. On the other hand, from the Austro-Hungarian boundary on, west of Pressburg (at Theben) to Regensburg, Bavaria, the last point reached by large steamships, the Danube, at lowest water, has a navigable depth of scarcely 1.2 metres, and unfortunately this low-water period falls at the very season of the busiest traffic, namely, the last days of the Hungarian and Roumanian grain harvest. Consequently the ships are compelled at present to take half and third cargoes, thus causing great economic losses. In order to abolish these evils and to enable the Danube to serve as an equivalent connecting link for the proposed ship canals to the Oder, the Elbe, and the Vistula, regulation of the river at low water has been planned, which will assure a navigable depth of two metres even at lowest water. A part of this regulation has been successfully carried out according to the plan of the author at the large Vienna cut, all the regulated sections of this cut possessing a depth of two metres at lowest water.

The conditions accompanying the construction of the canals just discussed are not as favorable as we have found them in other countries, since much greater differences in height have to be overcome than, for example, in the case of the North German canals. The height above sea-level of the water-sheds to be crossed are given in the following table:

Danube-Oder canal	284	metres
Danube-Moldau canal: from Budweis to Vienna . . .	540	"
Connecting canal between the Danube-Oder canal and the Elbe in Bohemia at Pardubitz	418	"
Oder-Vistula canal	272	"
Canal from Linz to Budweis . . . . . about	690	"

Even these heights do not *per se* offer insurmountable technical difficulties, since several French canals, for example, overcome with locks even greater heights. Since, however, we must in connection with the construction of new networks of water-communication provide sections of far greater modern dimensions for vessels with a capacity of 600 tons, and at the same time attain the fastest possible traffic uninterrupted by numerous locks, it is

absolutely essential that the open sections of canal be made as long as possible and the lift accordingly concentrated at a few points, which from an economic standpoint is undoubtedly accomplished best by lifting-machines.

The existing vertical lifting-machines as established at Fontinettes, La Louvière, and Henrichenburg prove conclusively that their utility must cease for constructive reasons at a height of from 14 to 16 metres, and therefore another device will be resorted to in the new Austrian canals in the form of ship-lifting machines on inclined planes, for which plans have been submitted by leading German and Austrian machine factories. These machines are constructed on the principle of longitudinal or transverse planes and overcome heights of 60 metres with grades of from 15 to 35 per cent. The practicability of this innovation is insured by the judgment of an international jury composed of prominent experts, as well as by the circumstance that five of the leading Bohemian machine manufactories are willing to undertake the construction and guarantee its success. An experimental lifting-machine is to be built shortly, and a definite decision with regard to the exact nature and construction of the device to be employed will be reached upon the basis of the trials to be conducted with this machine.

Proposed Waterways	Length in Kilometres.	Total lift in metres.	Locks only	Lifting-machines	and locks
I.—Canals					
Danube - Moldau - Elbe canal					
Danube-Oder canal	274	205	50	7	3
(Vienna to Budweis)	205	535	129	4	13
Connecting canal from Prerau to Pardubitz	196	411	100	6	4
Canal from Linz to Budweis	95	748	170	8	2
Oder-Vistula-Dniester canal	479	286	71	4	15
Total	1249	2185	520	29	37
Branch canals	80	...	...	..	..
Grand total canals	1329	2185	520	29	37
II.—Canalized Rivers					
Moldau from Prague to Budweis	185	195	34	..	34
Elbe from Melnik to Pardubitz	150	68	25	..	25
Total waterways	1664	2448	579	29	96

The costs of the different canals were estimated by the Board of Trade at the following sums:

1.	Danube-Oder canal	140,000,000 crowns
2.	Connection of the Danube-Oder canal with the Elbe from Prerau to Pardubitz	130,000,000 "
3.	Danube-Oder-Vistula canal	81,000,000 "
4.	Connection from Hruscvhau to the Vistula . .	60,000,000 "
5.	Danube-Moldau canal	140,000,000 "
6.	Connection of the San with the Dniester . .	36,600,000 "
	Total	587,600,000 crowns

or approximately $120,000,000.

The general recognition of the fact that the construction of various waterways would inevitably bring about a great economic development made possible the astonishingly rapid passage of the law of June 11, 1901, in accordance with which it was decided to proceed with the building of the following waterways, on condition that the countries traversed by these waterways contribute a certain inconsiderable share of the expenses:

A. A ship canal from the Danube to the Oder.

B. A ship canal from the Danube to the Moldau near Budweis, together with the canalization of the Moldau from Budweis to Prague.

C. A ship canal from the Danube-Oder canal to the Middle Elbe, together with the canalization of the Elbe from Melnik to Jaromir.

D. A navigable connection from the Danube-Oder canal to the Vistula and to a navigable section of the Dniester.

Work on these waterways, which are all to be controlled by the Government, must be begun by 1904 at the latest. The maximum sum to be expended between 1904 and 1912 is 250,000,000 crowns; the payment of future expenditures to be guaranteed by special legislation at the proper time.

It has been estimated that for the canals in high altitudes a rate of transportation varying from 1.0 to 0.9 heller per ton and kilometre will have to be established, for those passing through plains a rate of from 0.7 to 0.6 heller. Adding to this the State taxes, we shall get approximately from 0.8 to 1.0 heller as the minimum rate of the total costs of transportation on the proposed canals, which is only about 50 or 60 per cent. of the rate of 1.6 heller per ton and kilometre charged by the Austrian Government railroads. The freight charges for low-class goods from Vienna to Prague, which are 8 crowns and 6.70 crowns per ton, respectively, by rail, would amount only to from 2.60 to 3 crowns per ton by water via Korneuburg and Budweis. Coal could be transported from Ostrau to Vienna on the Danube-Oder

canal for 2.20 crowns, instead of 7.20 crowns by rail. Bohemian brown-coal could be transported from Aussig to Vienna by way of the Elbe, the Moldau, and the Moldau-Danube canal for from 3 to 3.60 crowns. For high-grade goods, like sugar, grain, etc., for which much higher rates are charged by the railroads than for common articles, the cost of transportation by water will be only about a third or a fourth of the cost by rail.

The Hungarian Waterway Plans

Now that the construction of the Austrian canals, especially of those from Vienna to the Oder and the Elbe, which are so highly important for the Hungarian grain export, has been assured by law, the building of cheap waterways will receive a needed impetus. In planning a network of waterways for Hungary, we must proceed in a manner similar to that employed in the drafting of the new French bill, that is, we must first determine the main currents in which the commerce of the country flows and then accordingly lay out our waterways. As far as the Hungarian grain export is concerned, it is essential that a short and direct connection should be established between the chief district of production, the famous *Alföld* or the Low Hungarian plain, and the leading centres of consumption, Bohemia and Moravia. The main current of this trade therefore runs from east to west, and the existing natural waterways can be used as means of transportation only in so far as they follow, at least approximately, this general direction. As far as both position and direction of current are concerned, the above requirements are met only by the left-hand tributaries of the Theiss, the Körös and the Maros, and by the Franzens canal. The Danube, between the mouths of the Theiss and the Drau, as well as between Budapest or Waitzen and Vienna, has the proper position, but the current flows in the wrong direction. The largest part of the Danube, as well as the Theiss, flow from north to south, and are consequently almost valueless for this trade combination. The same is true of the Drau and the Save. At present Hungarian grain is shipped to Vienna via the Danube, and, since no communication by water exists between Vienna and Bohemia or Moravia, it is then transferred to cars to be forwarded to its destination.

The above remarks go to show that in the largest wheat-raising sections of Hungary transportation by natural waterways is not feasible, and the rates of transportation are consequently considerably increased. The difficulty can be removed only by constructing canals running chiefly in a westerly direction from the *Alföld* to Budapest and employing the natural waterways as much as possible. This would, in the first place, necessitate the building of a canal from the Danube below Budapest to the Theiss, say at Csongrád, to which should be joined a northern *Alföld* canal from Csongrád to Szatmar

and a southern one from Temesvar to Szegedin and through the Theiss to Csongrád. It is easy to see that the connection of the Theiss, the chief river of the *Alföld,* with the Danube by means of the Franzens canal is made much too far south for the present purpose, and it is therefore absolutely necessary to establish a connection between the Middle Theiss and Budapest by means of a practical waterway. With this aim in view, a uniform and uninterrupted waterway is to lead from Szatmar by way of Debreczin and Csongrád to Budapest and thus at the same time to Vienna and to the canals from the Danube to the Elbe and the Oder. The second canal, which is to be built from Temesvar, would join the Theiss at Szegedin.

The benefit which Hungary would derive from the construction of these canals may be inferred from the fact that about 65 per cent. would be saved by shipping grain by water as against transportation by rail. The new canals will therefore effect a saving of from 1.5 to 2.5 crowns, say on an average 2 crowns per 100 kilograms, which for 13,000,000 metrical hundred-weight of Hungarian grain exported to Austria and Germany would be equivalent to an annual saving of 26,000,000 crowns on freight alone.

The building of the Austrian and Hungarian canals is of supreme importance with respect to the competition of American and Hungarian grain in Bohemia, for as soon as the canalization of the Moldau from Prague to Aussig, the regulation of the Moldau at Prague, the canalization of the Moldau from Prague to Budweis and that of the Elbe as far as Jaromer, and the Danube-Moldau-Elbe canal have been completed, American grain can be transported entirely by water without relading from Hamburg to any part of Bohemia, and upon completion of the remaining proposed waterways also to any part of Moravia, Lower and Upper Austria, Silesia, and Galicia. This will, of course, be of great help in relieving the competition of domestic as well as of Hungarian with American grain, apart from the custom regulations that every country adopts in the interests of home production.

The Russian Waterway Plans

The Russian network of waterways, which has begun to assume great importance for Russian trade and commerce, is capable of tremendous development. The proposed sea canal from the Baltic Sea at Riga to the Black Sea at Kherson, making use of the Düna, the Beresina and the Dnieper, will furnish a good example of the wonderful possibilities still in store for Russian shipping. Comparatively few technical difficulties stand in the way in the construction of this canal, not only because of the extraordinary water supply of Russian rivers and their small life, but also because the water-sheds are removed short distances from one another. The pro-

posed canal is intended for both ocean-vessels and warships, and is bound to exercise a widespread influence on Russian affairs.

Among inland waterways the plan for a connection of the Vistula at Novo Georgievsk with the Niemen at Niemnovo and the extension of the waterway as far as Windau, a port on the Baltic, is worthy of mention. This canal will accommodate vessels with a capacity of 250 tons and a draught of 1.50 metres, and is intended to avoid the German Baltic ports, especially Königsberg and Memel, in the export of Russian grain.

Russia also possesses almost unlimited opportunities in Siberia, the Ob, Yenisei, Lena and Amur, all richly supplied with water, and particularly suited for forming the bases of a practical network of waterways, which would no doubt contribute not a little to the cultivation of Siberia. A regular steamer service for both passengers and freight has been maintained on these rivers for decades. Since 1888 the Ob has been connected with the Yenisei by a canal, which, to be sure, is accessible only to ships with a maximum cargo capacity of only 82 tons, yet an uninterrupted waterway has thereby been established from Tumi to Irkutsk, a distance of 5,300 kilometres. The rivers of the Amur system cover a length of 14,500 kilometres, and the Russian Government has adopted measures to render them navigable. The Amur is navigable by coasting-ships up to 1,000 kilometres from its mouth. In 1895, 56 steamers, with a total horse-power of 3,269 and 64 freight vessels with a total cargo capacity of 12,000 tons, were in use here.

From all that has been said, we must conclude that the civilized nations of the world are at present greatly interested in the energetic development of their waterways, and that no country can afford to withdraw from this economic rivalry without running the risk of being passed in the race. In Europe we are witnessing the construction of a series of immense systems at unheard-of expenditures, which will undoubtedly result within a conceivable space of time in a practical modern network of waterways extending from the Iberian peninsula to the borders of Asia, and even beyond to the Pacific Ocean.

Groups of canals and rivers, supplemented by new waterways, are united to form great arteries of commerce, their directions and dimensions being skilfully adapted to varying demands, and thus a system of commercial arteries will be developed in Europe, by means of which the exchange of products as between nations and continents will most effectively be accomplished. Economic invigoration, a more intimate *rapprochement* of neighboring countries and consequently closer ties binding the nations of Europe together for the protection of common interests, will be brought about as a most natural result.

From time immemorial the sea has exerted the widest influence upon the development of human civilization, and so in this latest period of creative activity, the first impulse has come from the sea. The depth of the ocean, that imposes no restrictions upon the building of ships, and the enormous advance in ship-building itself and in ship machinery, have effected the totally unexpected and undreamed-of growth of ocean-vessels, which, in turn, has given rise to a powerful development of seaports. The increase in harbor traffic gave an impetus to inland navigation, and by this means materials are brought from the sea as far as possible into the interior of the country and new products are sent back in exchange. Just as the heart of a living being with powerful beats drives the quickening drops of blood into the arteries, in order that even the most distant and minute ramifications may be supplied, so also, in a well-arranged system of waterways, the commerce of the ocean penetrates into the innermost sections of the country and everywhere exerts an invigorating influence. It is the serious endeavor and the signs of our times to proceed systematically in the construction of these avenues of communication and to employ every means that modern technology offers to bring them nearer and nearer to perfection.

THE PRESIDENTIAL CAMPAIGN

JOSEPH B. BISHOP

NEW YORK

IN two respects the Republican National Convention of this year will be unique in our history. It will nominate for the Presidency, while he is holding that office, a man who succeeded to it through the death of a President, and it will be the first assemblage of the kind that has not been "packed" in advance by the politicians in the interest of candidates of their own choice. No "accidental President" has ever been nominated to succeed himself. Fillmore was not a formidable candidate when his term expired in 1852, but he was four years later, and was nominated only to be defeated. Few others in the same category have been seriously thought of at the close of their term, though some of them fully deserved to be. Arthur made an excellent President, but to his deep mortification and grief, he received only a perfunctory support in the convention of 1884, and had no chance at any time of securing the nomination.

How has it come about that Roosevelt is so much the exception that his nomination will be made by acclamation, virtually without a dissenting vote? The explanation is simple. He was a strong Presidential possibility four years ago when he was nominated for Vice-President. Nothing except the devotion of the party to McKinley because of his record in office prevented the candidacy of Roosevelt for first place from assuming large proportions at that time. He was not put on the ticket as candidates for Vice-President usually are, as a "consolation prize" for the supporters of a defeated candidate, but as a man whose great popularity throughout the country would arouse enthusiasm and give strength to the ticket. His campaign tour in the West fully justified this estimate of his qualities, and left him at its close more popular than ever. He was, in fact, recognized at the time of his nomination as a man up to the Presidential candidate size, and this estimate of him has been confirmed in the opinion of his party and of the country by his conduct in office since McKinley's death. Instead of there being anything inexplicable or surprising in the strength of his candidacy to-day, it is the logical result of his career and of events. It is no secret that fear of him as a Presidential possibility was the main reason why some of the most powerful politicians of his party wished to "sidetrack" him in the Vice-Presidency. His course as Governor of New York, in forcing through the Legislature, against the protests of Senator Platt backed by the great corporation influences of the City of New York, a law for the taxation of franchises, had created this fear. He had won great

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popularity by his refusal to yield to pressure on this question, and the influences mentioned were convinced by his firmness that he was not the kind of man that they wished to see in the Presidency. They feared that another term as Governor might develop him into a Presidential possibility with such strong popular support that the party could not refuse to nominate him in 1904 without inviting disaster. "We will bury him in the Vice-Presidency," they said among themselves, "and be rid of him; for in that office he can do nothing to add to his present popularity and he will lose that before his term expires."

So deeply convinced were Mr. Roosevelt's personal friends that to put him in the Vice-Presidency was to "bury" him, that they opposed the scheme with all their powers. He himself, as I have reason to know, took a like view. After he had been elected, he said that he was about to begin the study of law in order that he might begin to practice at the expiration of his term. He looked upon his political career as ended, but he was neither cast down nor resentful. Surely, never was it more startlingly shown that while man proposes, God disposes, than it was in this instance. Instead of being put upon the shelf by his political enemies, Mr. Roosevelt was put into the White House through their efforts. He came into the Presidency against the machinations of his enemies and in spite of his own struggles to keep out of it, and he came in under obligations to no human being. His conduct after becoming President fully justified the views of those persons who had concocted and carried through the scheme to sidetrack him. They very soon discovered that they could no more control him there than they had been able to control him in the Governorship of New York. They discovered, too, almost as soon, that he was winning the irresistible popularity which they had dreaded, and that they could neither counteract it nor defy it. Only a few months after he became President, one of the shrewdest political observers in Washington said to me: "Of course, Senator Hanna and his friends do not want to nominate Roosevelt in 1904, but every man of them knows and admits, with wailing and gnashing of teeth, perhaps, but none the less admits, that his nomination is as certain and as irresistible as fate." This unwilling conviction was strengthened beyond hope of escape when, (1), the Court of Appeals of New York State upheld the Franchise Tax Law; when, (2), the President's Anthracite Coal Commission succeeded in settling the great strike and assuring peace in that region for a period of three years, and when, (3), the Supreme Court of the United States sustained the Government's side in the Northern Securities case. Mr. Roosevelt, as Governor and President, had carried to final success all the policies which his party opponents had most disliked and antagonized, and in doing so had won the approval of the people

so overwhelmingly that for the party to refuse to nominate him for his own successor would be to commit suicide.

Thus has it come about that the National Republican Convention which is about to meet in Chicago is literally an " unpacked " convention, and as such, is a novelty in our national convention history. From the moment that the modern nominating system began to be used in this country, about three-quarters of a century ago, till this year, there has not been a great national convention that has not been more or less " packed " by the politicians weeks and even months in advance of its assembling. General Jackson, who called the first Democratic convention ever held, for the purpose of giving a " close-to-the-people " aspect to the nomination of his favorite, Van Buren, for second place on the ticket with himself, had it made up almost entirely of his own supporters, who were in so great a majority that he had them adopt the two-thirds rule, which he fastened so firmly about the neck of the party that it has never been able to rid itself of it. Thurlow Weed and his Albany Regency had such complete control of the first Whig convention, in a church at Harrisburg, Pa., in 1839, that they were able to defeat the nomination of Clay, who was the favorite when the convention came together. As a matter of fact, the politicians of both great parties, in the first half of the last century, took up the convention system because they thought they could accomplish their ends with it more effectually than they were able to do with the obsolete caucus system. From that day to this they have rarely allowed it to slip from their grasp, and there has not been a single convention in which they have not had control of a large proportion of the delegates, not for one man or two men, but perhaps for a half-dozen; but control they have secured so firmly that no candidate whom they did not wish to have nominated could hope for success. Of course, in such cases as the renomination of Lincoln in 1864 and of McKinley in 1900, they had an easy task to perform, because they had strong popular support on their side, but they did their work just the same. The approaching Chicago convention has not been manipulated by any political leader in the interest of Mr. Roosevelt. He was nominated, in fact, a full year before delegates began to be chosen, by the spontaneous action of the party conventions of 1903, in a large majority of the States of the Union, formally declaring in favor of his candidacy. The convention has been " packed " by the people and the politicians have merely carried out the popular will in choosing delegates to record formally the clearly expressed desire of the masses of the party.

Turning, now, to the Democratic Convention, which is to assemble at St. Louis, a quite different situation is presented. For several months strenuous and systematic efforts have been under way to " pack " this in

the regulation manner for several candidates. A Democratic convention is a more difficult body to control than a Republican convention, because of the "two-thirds" rule, which requires that proportion of the delegates in support of a candidate to secure his nomination. This rule was adopted in the first Democratic convention and has been upheld and reaffirmed in every subsequent convention of the party. It usually is accompanied by the unit rule, which enables the majority of a State delegation to cast the solid vote of the State according to their pleasure without regard to the preferences of the minority. The two rules working together produce anomalous results in an American representative body. One overthrows the principle of majority rule, and the other suppresses the right of individual freedom of opinion. One makes it very difficult for a candidate to obtain a nomination in a convention before which there are several candidates, and the other helps to secure him a nomination by giving him votes to which he is not entitled. Why the Democratic party should cling to both, is something of a mystery. Efforts were made in the conventions before the war to have the two-thirds rule set aside, but all resulted in failure. Since the war it has been adopted, usually without debate, in each convention. The supporters of every candidate are in favor of maintaining it in order to erect as formidable a barrier as possible in the pathway of their rivals. It enables a candidate whose supporters comprise more than a third of the convention to prevent the nomination of anyone unsatisfactory to himself. In the approaching convention, for example, by controlling a little more than a third of the delegates, Mr. Bryan and his followers can prevent the nomination of Judge Parker or any other Eastern Democrat who is distasteful to themselves. The rule is thus a weapon of great power in the hands of a militant minority, and as most conventions are composed of antagonistic minorities, these unite for the perpetuation of a method of procedure which is in their common interest. The effect upon the party is decidedly unfortunate. It holds it back from progress by placing in the hands of a Bourbonite minority power to hold it tied fast to dead issues and to prevent it from adopting new and living principles.

The conventions of this year will be of the mass-meeting order, which has been the rule since 1860, and which entitles these assemblages to the distinction of being the most riotous and noisy gatherings in the world. They have been steadily increasing in size and tumult since 1860. In that year the first convention of the modern type was held in Chicago, and resulted in the nomination of Lincoln. As there was no hall of large dimensions in the city at the time, a special building, christened "The Wigwam," was erected for the purpose. It had a capacity variously estimated at from 5,000 to 10,000, and was the first convention hall with large accommoda-

tion for the outside public. What happened? Why, precisely what has happened at every similar gathering since that time—the managers of various candidates made careful and systematic preparations to pack it with their followers, who could be relied upon to shout and cheer interminably on signal at any moment. The supporters of Seward went to the convention with fully a thousand followers and a gorgeously uniformed brass band. The supporters of Lincoln had a great host, gathered from the neighboring States, ready to further his prospects in all ways that could be devised. While the Seward men were parading the streets on the morning the convention was to meet, with their band at their head, the Lincoln managers filled all the available space in the hall with their followers, so that when the Seward procession arrived only the New York delegates in it could get in. At subsequent meetings no such blunder was made, and both sides got as many men as they could into the galleries and other available spaces.

In that convention, the first of the mass-meeting kind, the modern uproar tactics were instituted. The system of prolonged cheering and countercheering was put in operation spontaneously, it being the natural outcome of rivalry, each side seeking to yell longer and louder than the other. In subsequent conventions the same system has prevailed. It touched its highest point, perhaps, in the Republican Convention of 1880, at Chicago, when fully 15,000 persons were present as spectators. At one of the evening sessions the mention of General Grant's name started a " demonstration " which lasted for thirty minutes. It was an indescribable and boundless pandemonium. No sooner did it cease than a Blaine " demonstration," equally demoniac, arose at the mention of his name, and this lasted for thirty-five minutes. There were similar scenes in the Democratic convention which nominated Bryan in 1896, and in every other convention for the past thirty-odd years. It is scarcely necessary to say that organized uproar of this kind destroys utterly the deliberative quality of a convention. What happens is that the mob takes possession whenever it chooses to do so. It outnumbers the real convention many times to one. The whole body of delegates and alternates does not exceed 2,000 persons, while the outsiders number 15,000 or more, according to the size of the hall. It is absurd to say of these spectators that they are " representatives of the people " at the proceedings of the convention. They are nearly all furious supporters of particular candidates, and are only present for the purpose of overawing the convention and inducing it to act quite otherwise than in a deliberative manner.

A specially bad effect of the system is that, in requiring extremely large buildings or halls for convention usage, it makes anything approaching real debate or discussion impossible. Only speakers with the most powerful

voices can be heard except by those in their immediate neighborhood. The great bulk of the business of the convention in carried on in pantomime. Only a few persons know what is going on during the greater part of the time. In other words, the great halls are provided for the mob in order that it may take possession of the convention whenever it chooses to do so. In a hall capable of accommodating the actual convention comfortably everybody could be heard easily, and the assemblage would really be what it purports to be, a deliberative body called together to use its best judgment in the selection of a candidate for the highest office in the land. Perhaps, at some not far distant day, we may return to assemblages of this kind, but at present the mass-meeting type seems to find too much favor to be discontinued.

But does the shouting mob in the galleries have any real effect upon the action of the convention? Do the competitive struggles in cheering and shrieking have any perceptible influence upon the balloting? There is no evidence that a vote has been changed by these efforts, It is a fact that none of the most systematic efforts to "stampede" a convention by these methods has succeeded. Usually the mine has been exploded too soon. The demonstration has been made so far in advance of the balloting that its force has been wasted. Then, too, systematic preparations for "stampeding" have been met by equally systematic efforts to counteract them. Nobody is taken by surprise, and consequently nobody is carried off his feet. The balloting goes on precisely as if the demonstrations had not been made. As a matter of fact, the controlling power in nearly all conventions does not lie either in the delegates or in the political bosses who direct so many of them, or in the ten or twelve thousand people who get into the convention building. It rests in the people who are outside, but whose influence is exerted during every moment that the convention is in session. The final, deciding question is not, Which candidate do we most desire to nominate? but, Which candidate can we be most certain to elect? To answer that intelligently the most sagacious minds in every convention look beyond the shouting galleries, with their few thousands of personally interested spectators, to the millions of voters scattered over the land, and seek to read in advance their answer at the polls.

On the question of issues for the campaign which is to follow the conventions, the Republicans have a much more clearly defined course than have the Democrats, for their platform stands ready-made to their hands in the achievements of the Roosevelt administration. The record of things done during the two and a half years of that administration has not been surpassed in amplitude and large importance by any of its predecessors since the Civil War. It has been said that Roosevelt will be both candidate and

platform, and this is true. He will be nominated unanimously because of his achievements, and those achievements will constitute the platform upon which he will stand because they are the record of the party which he has led since succeeding McKinley in the Presidency. The record is a full one partly because it fell to Roosevelt to carry to final completion questions of policy which McKinley had formulated and set in operation. In this respect Roosevelt has kept to the letter the pledge that he made on taking his oath of office at Buffalo. He has, with the support of the Republican leaders in Congress, given to his party a continuing policy of administration, thus securing for the country results which otherwise might not have been possible of attainment. He took up the problems of Cuba, the Philippines and Porto Rico at the point at which McKinley dropped them, and carried forward his policy without a break and without the slightest diminution of energy. Since he became President, Cuba has been started successfully on its career as a free republic, and the United States has entered into a treaty of reciprocity in trade with it. The Philippine policy, instituted by McKinley, has been pushed forward with such steadiness and with such ability that the islands are at peace for the first time in several centuries and are enjoying throughout nearly their entire extent a considerable measure of self-government. Porto Rico is moving along so quietly and successfully under American rule that little or no thought is given to it in this country.

In regard to the solution of the problem left by the war with Spain, therefore, the Republicans can point to a record of results which cannot be successfully assailed by their opponents. They have kept faith with Cuba in giving the island independence and in giving it, also, as a republic, special trade privileges with the United States. The new republic has started on its career with far better prospects of continuing success, has displayed a larger capacity for self-government, than many of its most sanguine friends believed to be possible when it was given full control of its own affairs. In insisting that complete faith be kept with the island, President Roosevelt was uncompromising and unwearying. He appealed to Congress at two regular sessions to grant reciprocity, as McKinley had urged and as the nation had promised, and when nothing was done he called Congress together in extra session, a month in advance of its usual time, for the specific purpose of ratifying a treaty of reciprocity, and enacting such legislation as would carry it into effect. This final effort was successful. In the Philippines, Governor Taft, who was McKinley's appointee, was so earnestly and cordially supported in his policy by Roosevelt, that he was able not only to pacify the islands and start their people surely upon the road to ultimate self-government, but to induce the Catholic Church to sell the friars' lands

and to withdraw the friars, thus removing from the islands one of the chief obstacles to their permanent peace and to advancement in prosperity. Here, again, the administration's policy has been so successful that assault upon it by the Democrats has ceased and is not likely to be renewed in the campaign.

When we turn, next, to achievements which belong entirely to the Roosevelt administration, to solution of public questions that have arisen since Roosevelt became President, the record is also a notable one. The most important of these are the settlement of the anthracite coal strike and the securing of the Panama Canal. I have so recently written in detail in these pages on these two subjects that it is quite unnecessary to even recapitulate their main points now. It is only pertinent to consider here their qualities as issues in the campaign. That the Democrats will endeavor to make political capital by assailing the President's course in either matter is admittedly improbable. It is conceded that what he did in both cases commanded popular approval so overwhelmingly as to make assault upon it by an opposition party very inadvisable. In the coal strike settlement, all the opposition was from the outset concentrated in a single element of the electorate and was confined almost entirely to a single community, that known as Wall Street. As time has gone on, and as many facts hidden at the time have crept into the light, opposition and criticism have died away. In the first place, the President did settle the strike, not only for the time being, but for three years. That is a concrete fact which the people have grasped and they have paid little heed to any other aspect of the matter. They were in great anxiety, a grave peril hung over them, a peril of suffering and possible riot, and the President had both the energy and the courage to avert it in spite of all obstacles and in disregard of all criticism. It has been disclosed since the settlement that in his efforts he had from the outset the hearty sympathy and encouragement of ex-President Cleveland, who not only voluntarily assured him of both, but consented to serve, if desired, as the head of the President's Commission of Settlement. In view of that fact, and in view also of the fact that Judge Gray, who presided over the work of the commission, is himself a Democrat, second in party and public esteem only to Mr. Cleveland, the chances for the Democrats to make party capital by assailing the President's course are too slight to require serious consideration.

Much the same condition exists in regard to the administration's course in Panama. The great fact in this matter, as on the coal strike settlement, is that the President accomplished his end. He got the isthmian canal that the country had been trying in vain to get for fully three-quarters of a century. There was no objection expressed by his critics at the time to what he had accomplished; his method was the only subject of attack. Yet

after much vociferous debate and denunciation in the Senate, the Democrats were unable to unite for the rejection of the treaty which secured to the country for all time the results of the President's course, and nearly a majority of them voted for its ratification, thus giving their aid in affixing the nation's approval to his conduct. After that proceeding, it will be very difficult for the Democrats to assail the President or his administration for any step in the Panama policy.

The Republican platform, it is easy to perceive, is to be composed mainly of the subjects that I have touched upon in the foregoing passages. Combined with them will be naturally an account of the great and signal services that have been performed, both under McKinley and under Roosevelt, by Secretary Hay in the State Department; services which have written his name at the top of the list of the world's greatest diplomatists and shed enduring honor upon his country. That is not the unduly fervid language of partizanship, but an accurate expression of the tribute which intelligent and fair-minded men of all parties pay gladly whenever Mr. Hay's name is mentioned. It will not be the least valuable of the Roosevelt administration's assets that it has retained and is likely to continue to retain John Hay in its Cabinet, and has associated with him there men of the calibre of Root and Taft and Knox. The Democratic leader who should be asked where he would find in his party material for such a Cabinet as McKinley had and as Roosevelt has retained and strengthened, would have much difficulty in constructing a satisfactory response.

What, then, are the Democrats to do for issues? Whither are they to turn for a candidate? These are questions which grow more difficult to answer as the date for the assembling of the conventions draws near. The party is suffering from a family quarrel of eight years' standing. Experienced observers of such quarrels say that ten or twelve years is the usual period for them to run, that it is idle to hope for peace and the restoration of good-will in less time than that. It should be borne in mind that this Democratic quarrel has in it extraordinary elements of bitterness. It has resulted in two national elections in the overwhelming defeat of the majority faction. Whatever else may be said of Mr. Bryan, he was the regular and undisputed nominee of his party, receiving not only the required two-thirds vote in one convention, but the unanimous vote in the second convention. He and his supporters believe that he was defeated in both campaigns by Democrats who either refused to vote at all or voted directly for his opponent. They regard these Democrats as having committed the unpardonable political crime of bolting. It should be remembered that while the bulk of these bolters were in the Eastern States, there were many thousands of them in the West. It was in the latter section that the Bry-

anites and the bolting Democrats came face to face. They were old party associates, and the quarrel became, consequently, as bitter as family quarrels always are. The bolters not only defeated Mr. Bryan, but they caused the defeat of State and local Democratic candidates everywhere. They did this in two national elections, and they so weakened the party in all sections that it deprived hundreds of Democrats of office and means of support. Is it strange, in view of all this, that the Bryanites are bitter in their hatred, that they refuse to tolerate a suggestion that members of the party who were "traitors" to it eight years and four years ago shall be permitted to come back now and dictate its principles and name its candidate?

It cannot be said that the course pursued by the Eastern Democrats has been placatory. Mr. Cleveland, as their most eminent representative, has repeatedly spoken of the Bryan followers as neither sane nor honest, yet the Eastern Democrats, a few months ago, pressed him to the front as their chosen candidate for the nomination this year, in spite of the third-term tradition. It was scarcely in human reason to suppose that men spoken of in this way, who had suffered the humiliation of two great defeats because of the refusal of Mr. Cleveland and his associates to stand by the party's nominee, would be equal to the task of bowing under Mr. Cleveland's lash, confessing that they had been insane and dishonest and accepting him as their candidate. As a matter of fact, bringing him forward as a candidate served to rekindle the fires of party animosity to a fiercer heat than had been in them for some time. When Mr. Cleveland's candidacy was abandoned, because of his refusal to consent to it, the Eastern Democrats brought forward Judge Parker in such a manner as to enrage the Bryanites rather than to conciliate them. Scarcely had they put him in the field when Mr. Cleveland published a formal and earnest approval of his candidacy in which he took occasion to repeat all the irritating views that he had previously expressed as to the insane and dishonest qualities of the Bryan contingent. This made Judge Parker, who had himself voted for Mr. Bryan in both elections, the chosen candidate of the bolters and as such most objectionable to the Bryanites.

But this was not the real source of the opposition to Judge Parker within his own party. I am writing far in advance of the meeting of the convention and am expressing no opinion as to his chances for securing the nomination. What I wish to point out is the radical difficulty in bringing the Democratic party into harmony upon any New York candidate. The only excuse the Democrats have for coming to New York for a candidate is that Roosevelt is believed to be weak in his own State. Why is he weak there? Because Wall Street does not like him. Then, in order to gain strength with a New York candidate in New York, the Democrats must find one

acceptable to Wall Street, that is, one more friendly to the Trusts than Roosevelt is. It is manifestly absurd to say that such a candidate would be supported by the Bryan followers in the West. Yet Judge Parker was put forward as such a candidate, was advocated openly by one Wall Street magnate, was placed by the convention of his own State on a platform which said nothing about Trusts that was not friendly, and was in general heartily supported by the friends of Mr. Cleveland in and out of the press. What would be the condition of the Democrats with such a candidate on a platform friendly to the Trusts? What would be his condition on a platform of the old Bryan type? In the first instance, the Bryanites would refuse to support him and he would stand no chance of carrying a single large Western State. In the second instance, New York and the East would repudiate him and he would lose all States in that section.

This reveals the fundamental weakness in the Democratic situation. The party is more intent upon fighting within itself than it is upon fighting its opponent. It is so irreconcilably divided in opinion that no common ground of meeting can be discerned. It cannot be induced to make tariff reform its chief issue because its members have at heart no interest in the question and they know also that the people are content with present conditions and will not tolerate a proposal to disturb them. The silver question is dead and cannot be revived. There remains only the Trusts, and on that they are greatly embarrassed by the record of President Roosevelt. He has enforced the law fearlessly and thoroughly. He has won the confidence of the people in his sincerity in the matter. He has refused, as the phrase of Attorney-General Knox puts it, to " run amuck " among all the corporations of the land on the assumption that not only are Trusts and corporations bad, illegal and full of evil, but all aggregations of wealth, as well, and all deserving of prosecution and destruction through the courts. Under these conditions, the only way open to the Democrats is to out-Roosevelt Roosevelt, to go farther than he has gone, that is, " run amuck." Mr. Bryan and his followers wish to do this; the rest of the party are opposed to it, and if a candidate and platform are put forward embodying that doctrine, they will bolt a third time.

Is there any other platform that the Democrats can formulate? They can and probably will assail President Roosevelt as an " unsafe " man, but a campaign on a personal issue against a man of deeds has never succeeded in this country and never can. They will not take the tariff as an issue, and they have no desire to declare direct antagonism to the great issues of the Republican platform which I have enumerated above. Their situation is much like what the late William C. Whitney said it was four years ago —" They have neither men nor principles." They have a man in Judge Parker, but the difficulty lies in fitting him with suitable principles.

NOTES ON THE TRUSTS

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THE community association of elements of labor, of labor and capital, and of capital with capital, is one of the fundamental principles of commercial evolution. In the growth of commercial life there is an evolution of the partnership from the individual, the guild from the partnership, the corporation from the guild, and finally the aggregation known as the trust. Each step in this evolution denotes progress in commercial organization.

The type of business machinery known as the trust is not of recent origin. Its growth along lines of natural development has not been sudden; it is the natural sequence of what has preceded. But the commercial creations of the past few years of high finance have, however, been hybrid productions not in consonance with and subversive of the commercial laws governing the creation of a real trust.

In commercial life only those methods of transacting business survive which are best adapted to their environments, just as in the physical world only the types of life best suited to their environments survive.

When agriculture was the principal occupation we find individuals associating together for the purpose of jointly accomplishing a piece of work and sharing among themselves the common product. The formation of guilds in most of the European countries dates from a very early period, when men associated together for protection against common enemies and for ecclesiastical and eleemosynary purposes; but with the extension of the commercial life of England, the need of a broader vehicle for the transaction of business became apparent, and adapting the machinery already created for another purpose, we find the Guilds-Mercatoria or Guilds-Merchant coming into existence. These guilds-merchant, recognizing the necessity of community association and advancing a step further, not only took advantage of the common labor of their members in the transaction of broadening channels of commerce, but availed themselves of their financial resources to a defined extent. Death of a member, however, terminated his membership, and this arrangement could not in the end meet the needs of a rapidly growing commercial life. There further developed the necessity of some vehicle which would permanently recognize labor performed and capital invested. Something which would not at the death of a member take from his estate a continuance of the benefits his labor or capital had helped to create, nor deprive the association of the capital invested. And here casting about for the means to accomplish the end desired, recourse was had

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to a creation of the old Roman Law, and the law-making power of the body politic was evoked to bring into life the corporation.

The corporation was crude and primitive in its early English inception, but step by step, as the necessities of commercial expansion demanded, and as the justice and fairness of such demands came to be recognized, we find the law-making powers yielding, until through successive generations and by re-enactment in our own States of statutes originating in England, we have our corporation as it exists to-day, uniform in its most essential features in all of the States.

Commercial pursuits were originally limited to a few objects, but year after year the number of these objects increased and the number of individuals and corporations engaged in some specific line of industry assumed larger and larger proportions. Yet in these specific industrial or commercial pursuits the great portion of the business, concentrated in the hands of some few individuals, partnerships and corporations, by reason of superior business ability or some other potent factor; but all engaged in a deadly rivalry to survive. In such a contest for success and survival, the necessity for a true observance of the economies of production is of course at once apparent; but in such businesses there are expenditures, in most instances, of large sums of money, for the introduction of the merchandise and facilities of one concern, to the supplanting and exclusion of those of another,—such as advertising, solicitation of trade,—which do not materially add any value to the product disposed of, and make the article, whether it be merchandise, transportation or creative ability, more costly to market and more costly to the consumer. An exclusion of such unnecessary items of expense therefore, from an economic point of view, seemed desirable. It was therefore necessary to create a vehicle in which should be concentrated and combined all the aggregations, be they corporations, partnerships or individuals representing the highest advance in any particular line of industry; and for this purpose the Trust was founded. This organization holds all that has been proven by the struggle for existence most fit to survive, and by the survival of these various elements the body politic is benefited. This combination of forces gives to the consumer a product of labor and capital at a cost less than existed before the combination was effected.

At first sight, however, the good to the community is not so apparent, since it would appear that a huge monopoly had been created, which for a time at least would extort large tribute from the consumer. Here, however, the law of self-preservation asserts itself, since the establishment of unjust and unwholesome prices is the most direct method of creating competition, which invites the Trust to its own destruction or limits its growth and expansion.

The establishment of a monopoly under a Trust has indeed, at the out-

set, the effect in most instances of holding or increasing the prices which existed before its inception; but we insist that if such Trust is to survive, the final result of its organization will be the gradual lowering of these prices. Notable instances of the truth of this statement will be found in the history of the Standard Oil Company and the American Sugar Refining Company, and such instances may be multiplied.

The statistics compiled from time to time show that since the organization of these corporations the prices of oil and sugar have, with slight fluctuations, steadily decreased. Illustrative of the point that the real Trust is of economic benefit to the consumer, which is the community at large, we give below statistics, covering the cost to consumers, during a period of years, of staple commodities produced by some of the leading Trusts:

YEAR.	STANDARD OIL COMPANY.	DIAMOND MATCH COMPANY.		AM. SUGAR REFINING COMPANY.	STARCH TRUST.	U. S STEEL CORPORATION.
	Refined petroleum at Port of New York for export price per gallon.	Organized 1889. Average price per gross of matches, boxes 200s.	Relative price on basis of 100 for period.	Organized 1891, but founders practically controlling prices for many years prior to its incorporation. Price per pound.	And corporations which preceded it and now compose it. Price of starch per pound.	Corporations which preceded it and are now amalgamated with it. Highest price in each year on steel beams.
	Cents.			Cents.	Cents.	Per gross ton
1871	25.7	....	....	....	....	....
1872	24.9	....	....	....	....	....
1873	23.5	....	....	....	....	....
1874	17.3	....	....	....	....	....
1875	14.01	....	....	....	....	....
1876	14.	....	....	....	....	....
1877	21.	....	....	11.6	5.02	....
1878	14.4	....	....	10.2	4.07	....
1879	10.8	....	....	8.5	4.2	....
1880	8.06	....	....	9.	4.3	....
1881	10.12	....	....	9.2	4.7	....
1882	9.1	....	....	9 7	4.8	....
1883	8.8	....	....	9.2	4.6	....
1884	9.2	....	....	7.1	4.5	....
1885	8.7	....	....	6.4	4.	....
1886	8.7	....	....	6.7	4.1	....
1887	8.7	....	....	6.	3.8	....
1888	7.9	....	....	6.3	3.5	....
1889	7.8	....	....	7.6	3.8	....
1890	7.4	$1.9583	111.5	7.	4.1	...
1891	7.	1.75	99.6	5.7	3.7	....
1892	5.9	1.75	99.6	4.6	3.1	$70.00
1893	4.9	1.75	99.6	4.7	3.2	46.00
1894	4.2	1.6667	94.9	4.4	3.2	37.00
1895	4.9	1.6875	96.1	4.6	3.2	40.50
1896	6.8	1.75	99.6	4.9	2.7	39.50
1897	6.3	1.75	99.6	4.7	2.1	38.00
1898	5.7	1.75	99.6	5.	1.9	31.50
1899	....	1.75	99.6	4.14	2.	54.00
1900	....	1.75	99.6	4.5	2.1	54.00
1901	....	1.75	99.6	5.	2.	37.00
1902	....	1.5883	90.1	4.1	2.3	...

It may be claimed that the position of the Standard Oil Company is unique, and that its steady growth has not been along the lines of natural development. But the mental qualities of those who manage and develop this property exemplify the doctrine of selection. In the combination effected in this Trust there has been selected and kept the talent which could turn so many waste by-products into salable commercial articles, create markets for such by-products, and thereby from time to time reduce the price of its fundamental product. The Trusts have persistently acquired the best in their line of physical properties, and the best mental abilities to manage them. Whenever a factor not of permanent use and a source of temporary annoyance or injury to the organization, has been found, it has been ruthlessly destroyed, and the community at large has in the end been permanently benefited.

Within the last few years promoters and bankers, combining together to obtain riches quickly, have sought to foist upon an uneducated investing public a hybrid creation, in imitation of the real Trust. There suddenly grew up all over the United States, almost in a night, a host of combinations of every conceivable kind of industry. No field was left unscoured. The gold of the public was open to promoters, bankers and the owners of businesses, and all hastened to get their share of unexpected wealth. They were created mainly for the purpose of benefiting and enriching their promoters, with little regard for the future existence of the business. Their creator was usually restless to accomplish his main purpose and leave the enterprise for another. In other words, these Trusts were not a natural growth; they were created not for the best good of the industry, but for the best good of the promoter. It is, of course, needless to say that most of them were grossly over-capitalized, even with securities upon which there was no escape from fixed annual charges. In these malformed simulated Trusts, the postulate seemed to be, "Combine all, or nearly all, of the properties carrying on any particular line of business, if they be large enough to attract attention."

Along with such a combination comes a greedy horde, who must needs be reckoned with, and satisfied, at heavy cost, if the combination is to be effected. Promoters, assistants to promoters, go-betweens of promoter and capital, favored underwriters, favored owners of plants, and office-seekers. Once the rapacity of the owners of plants has been determined, there must be provided, regardless of the burden entailed, a sufficient fund to satisfy all who assisted in the promotion of the enterprise, and from small beginnings it is increased over night into fabulous sums.

The combination is usually thus accomplished: A hungry promoter picks out some particular line of industry, and learns who are the principal

exponents of that industry; options to buy the properties are then procured from these parties, usually for cash, and also the securities of a proposed new corporation, which shall represent all of the principal elements of that industry. The price fixed in cash is far in excess of the real value of the plant and business. The next step is the "Underwriting." In this engine of future torture a glowing description of the proposed new business is usually set forth, based upon audits and appraisals made sometimes carelessly and inefficiently, sometimes deliberately and grossly exaggerated, by so-called Auditors and Appraisers.

To raise the funds needed in cash to satisfy the purchase price of the properties and the demands of the promoters, the public is invited to subscribe for the securities of the proposed new corporation, at what seems an attractive price, some alleged good securities are offered as bait, and by arrangement with banking houses, loans on the names of the underwriters and the securities underwritten are procured for a period of some months, in some cases with no margin and in others with only a very small margin.

Into the underwriting agreement there is speciously thrown a right for a fixed period on the part of the promoter to sell the principal securities underwritten, at a price higher than the subscription price, whereby, if exercised, the underwriter would be enabled to pay his loan, make a cash profit and retain as velvet some additional securities. The underwriter is by inference or representation led to believe that such sale will unquestionably take place. Fateful dream. He awakes too late, when the underwriting loan matures, and learns that he must pay his loan, and become the unhappy possessor of a lot of securities, daily diminishing in value, which will bring him no return.

We furnish on the next page a table showing some recent capitalizations taken at random. We have no means of determining the actual market values of the properties, at the time of their acquisition, for which these securities were issued, but the present market values of these aggregate securities ought to be a fairly true estimate; the difference is also shown. It is not claimed that all of the corporations stated below are failures or illustrate the extreme views here presented, but it is claimed that all are capitalized on a valuation much higher than an investing public places upon them.

The quotations of bond and stock values upon which the following table is based are from daily newspapers or from brokers familiar with prices which cannot be obtained from daily newspapers:

NAME OF COMPANY.	Kinds of Securities Issued.	Par value of actual securities issued.	Gross value of securities issued as per quotations January 27, 1904.	Aggregate of all securities issued by each corporation.	Aggregate of quoted values of all securities issued as of January 27, 1904.	Difference between quoted value and par value of securities issued.
U. S. Steel Corporation	Bonds	$304,000,000	$273,150,000			
	Preferred stock	550,000,000	316,430,000			
	Common stock	550,000,000	58,420,000	$1,321,500,000	$648,000,000	$673,000,000
Pacific Packing & Navigation Co.	Bonds	300,000	60,000			
	Preferred stock	12,500,000	93,750			
	Common stock	12,500,000	34,250	25,300,000	185,000	25,115,000
U. S. Shipbuilding Company	Bonds	24,500,000	5,145,000			
	Preferred stock	20,000,000	250,000			
	Common stock	25,000,000	100,000	69,500,000	5,495,000	64,005,000
International Mercantile Marine	Bonds	75,000,000	60,000,000			
	Preferred stock	60,000,000	12,000,000			
	Common stock	60,000,000	3,000,000	195,000,000	75,000,000	120,000,000
Amalgamated Copper Company	Stock	155,000,000	77,887,500	155,000,000	77,887,500	77,112,500
Consolidated Lake Superior Company	Preferred stock	19,000,000	522,500			
	Common stock	67,000,000	3,457,200	86,000,000	3,979,700	82,020,300
Republic Iron and Steel Company	Preferred stock	20,852,000	9,800,000			
	Common stock	27,352,000	1,388,160	48,204,000	11,188,600	37,015,400
U. S. Leather Company	Preferred stock	62,282,300	48,580,193			
	Common stock	62,882,300	4,401,761	125,164,600	52,981,955	72,182,645
U. S. Rubber Company	Preferred stock	23,525,000	11,998,005			
	Common stock	26,666,000	3,076,580	47,191,500	15,074,585	32,116,915
American Can Company	Preferred stock	41,233,000	15,256,210			
	Common stock	41,233,000	1,752,402	82,466,000	17,008,612	65,457,388
American Locomotive Company	Preferred stock	25,000,000	19,500,000			
	Common stock	24,100,000	4,338,000	49,100,000	23,838,000	25,262,000
Totals				$2,204,426,100	$930,638,952	1,273,787,148

After the necessary cash is raised, and the underwriters left to the destruction which usually awaits them at the maturity of their loans, the new corporation is created, its securities issued, plants conveyed to it, cash paid to the owners of these plants, and divided among the promoters and financial institutions and the huge bark, top-heavy and over-laden, starts out on its fateful voyage.

Any conscientious man who finds himself at the head of such an aggregation, after awakening to a full sense of the situation, and taking an inventory of the goods on his hands, with which he was expected to earn sufficient income to pay on the watered securities issued, must feel the deepest despair. The plants are grossly over-valued, and over-paid for in cash payment alone, to say nothing of securities issued therefor; some are badly located, some antiquated, some positively losing money, others greatly in need of repairs, and there are a few possibly good plants. The working capital is absolutely insufficient to handle the business, wholly inadequate to meet any expenditure for repairs or betterments.

After a few months the dividends begin to stop, retrenchments are ordered, perhaps some of the plants are closed or sold, salaries are cut down, (but the recipients usually hold to these with deadly tenacity, so long as there are funds to meet them), interest on bonds, if there be any, ceases, creditors press for payment, and finally the end comes.

Could such a production, so diseased in most of its members, fail to die? The question needs no answer.

The real Trust must be the result of a progressive commercial evolution, and as such it is an economic factor of service to the body politic. After the recent results from the creation of the so-called Trusts, there ought to be an end to the reckless promoting of industries. The financial institutions that have made such indiscriminate loans to underwriters, actuated mainly by a greed for the highest rate of interest, extra "commissions," and a large bonus of securities thrown in, are largely responsible for these combinations which have been a positive menace to our commercial expansion, a source of great loss to the investing public.

The spurious creations of the past few years have not all met the fate which awaits them, but the process of disintegration, elimination and destruction will remorselessly proceed. Ere the last of them disappears, carrying with it the millions of dollars invested by a too sanguine and unsuspecting public, there will be more or less spoliation by keen-eyed watchers, ready to seize and carry off whatever is worth preserving. Finally, the last vestiges will disappear, and there will survive, alone, the memory of these great commercial errors.

INDEX, VOL. IX

Aberdeen, Lord, 65.
Accent in poetry, 367.
Accidental Presidents, 441.
Agriculture in Mexico, 235.
Agricultural labor in the West, 282.
Alcoholic drink at Haubinda, 203.
Allan Hills, a volcanic cone, 306; Explosion, 307.
Ambassadors at the Papal Court, 161.
American stained glass work, 132.
Amergue, son of Milesius, 79.
Amyot on "Parallel Lives," 20.
Ancient Mariner, The, 329.
Andrews, Dr., 385.
Animals of the Campagna, 306.
Annexation of conquered territory, 181.
Annual Registers, 1830-1833, 67.
Anthropological problems, 278.
Antwerp, harbor of, 217-385; commerce of, 218.
Archer, William, 366.
"Argenis" of Barclay, 150.
Arnold, Matthew, 79.
Art, the laws of its sale, 131, 134.
Art Work, proposals for, 132.
Artists and Architects, 129, 134.
Artists, Combinations of, 137.
Astian sands, 296.
"Autobiography of Herbert Spencer," 335, 346.
Austrian water way plan, 433.

Barbarism and civilization, 13.
Belgian, petition of 1830, 41.
Belgians and Boers, 54, 60.
Belgium-Holland union, 1814, 34; dissolution, 41.
Bigley, Rev. Walter, 140, 153.
Béroue, "Romance of Tristan and Isolt," 119.
Bishop, J. B., Our government's course in Panama, 249; the presidential campaign, 441.
Bismarck's military policy, 179.
Blank verse, 368.
Boat transportation, 210.
Boer Republic, Income of, 55; monopolies, 61; Oligarchy, 68.
Boers, 68.
Boughi, Ruggiero, 161.
Bradley, President, 393.
Brain action, 187.
Bédier, Jos., "The legend of Tristan and Isolt," 103.
Brussels, revolution of 1830, 41.
Burton, Allen A., 255.

Campaign issues, 1904, 446.
Canal navigation in Europe, 211; Extension in Austria, 433; France, 222; Germany, 426; Hungary, 437; Russia, 438; see also Waterways.
  du Nord, 431.
Cartwright, Thos., 46.
Cass, Sec'y, opinion of, 1858, 250.
Catholic Association of Rome, 168.
"Cattle Raid of Coolney," 73, 77.
Certificates at Dr. Leitz's School, 192.
Chassé, General, 44, 51.
Chenier André, 172.
Children, First teaching of, 188.
China, conservatism, 90; future prospects, 96; indulgence toward foreigners, 91; partition, 88; regeneration, 88; wealth, 87; Chinese acquisitiveness, 101; army, 99; character, 280; ignorance, 92; industry, 93; manual cleverness, 101; missions, 102; physique, 100; religion, 93; self-esteem, 91; competition, 100.
Christ in Hades, 366.
Christian democracy in the Catholic Church, 166; theology, 341.
Christabel, 330, 332, 379; metre of, 379.
Christianity in Japan, 262.
Church, Spanish in the Philippines, 12.
Citizen armies, 172.
Cleopatra, Death of, 24.
Climatic changes in Italy, 295.
Coal strike settlement, 448.
Coleridge, Arthur Symons, 317.
Coleridge, conversation, 323; critical power, 324; friendship, 318; indolence, 323; metaphysics, 321; philosophy, 319; poetry, 326; sensitiveness, 331; use of opium, 321.
Colored races, 275; American, 276; Australian, 276; European, 275.
College, denominational, 387.
  harmony, 393.
  small, 385, 393.
  state, 383.
  types, 382.
Colombia, Constitutional government of, 257; sovereignty over Panama, 257.

INDEX, VOL. IX

Colombian government, and Hay-Herran treaty, 249.
Commercial antagonism toward artists, 138.
Commercial development in Japan, 262.
Commercialism in the Arts, Frederic Crowninshield, 129.
Competition, political and individual, 401.
Conant, Chas. A., The trusts and the public, 395.
Confucius, 90.
Constitution of Japan, 269.
Convention "Mass Meetings," 445.
Conybeare, F. C., Emancipation of Belgium from the Dutch, 32.
Coriolanus, 28.
Corporation laws, 396; securities and values, 457.
Crater lakes, near Rome, 308.
Creation stories, 337.
Crispi, Signor, 185.
Crispolti, Marquis Filipo, from Leo XIII. to Pius X., 154.
Criticism, Coleridge's definition of, 324; on the Panama question, 249.
Crowninshield, Frederic, Commercialism in the Arts, 129.
Cuban Republic, The, 447.
Cuchulain of Muirthemne, 72; its language, 73.
Culver, Frederic C., Notes on the trusts, 452.
"Cut Rates" in Art, 132, 136.

De Freycinet, canal, plans of, 221.
Deirdre, 74, 76.
"Delays of Divine Justice," 31.
Democratic convention, 1904, 444.
Democratic issue, 1904, 449.
Democratic influence on militarism in France, 173.
Democratic influence in Germany, 175.
De Potter, M., 36, 40.
De Quincey, 321.
Deutsches Landerziehungsheim, 191. vide Haubinda farm.
Dilke, Sir Chas., 55.
Dissolution, 354, 357.
D. L. E. H. citizens, 191, 201.
Dortmund-Ems canal, 223.

East Asian market, 283.
Economic condition of Mexico, The; H. L. Vegus, 235.
Education in the North and South, 288.
Education of the Stranger, The, Bernard Moses, 1.
Educational administration of the Philippines, 2.
  method of Dr. Lietz, 200.
  principles at Haubinda, 201.
  problem in the Catholic Church, 169.
  system of Java, 4.
Elbe-Trave canal, 225.
Eliot, Chas. W., Problems of the Negro, 285.
Emancipation of Belgium from the Dutch, The; F. C. Conybeare, 32.
"Emslohstobba," 186.
Energy, Theory of, 360.
English-French-Italian alliance, 414.
English international commerce, 432.
English language in India, 10.
English language in the Philippines, 7.
Epic of Ireland, The; Paul Elmer More, 72.
Eternity of forms, 340.
European seaports, Size of, 219.
European unsettlement, 409.
Evidences of Miltonic origin in the Nova Solyma, 140, 145.
Evolution, History of, 335; character of, 356.
Evolutionist, meaning of, 336.

Faraday, Miss Winfred, 82.
"Fate of the Sons of Usnach," 75.
Federal control of corporations, 396, 404, 405.
Ferrari, Cardinal, 155.
Ferriere, M., 201.
Fichte, on national independence, 174.
Fillmore, President, 262.
"First Principles," Spencer, 357.
Forel, F. August, Pestalozzi's idea realized, 186.
Foster, John W., Marquis in the Japanese stateman, 261.
Franco-German situation, 411.
Franco-Russian investments, 414.
Frederic the Great, 171.
French influence in English poetry, 378.
  international commerce, 432.

law of foreign corporations, 401.
waterway projects, 429.
From Leo XIII. to Pius X., Marquis Filippo Crispolti, 154.
Future of China, The; F. W. Williams, 87.

Gaelic poetry, faults, 84.
Medieval, 84.
nearness to nature, 80.
Garibaldi, General Ricciotti, Germany, France and the peace of Europe, 409.
Garnett, Richard, Milton as romancer, "Nova Solyma," 140.
Garrido, Senor, 256.
Geikie Sir Archibald, The Roman Campagna, 292.
Genesis of the Tristan and Isolt Legend, 103-106.
German International Commerce, 432.
Soldiers, 412.
Unity, 180.
Waterways, table, 225.
German rural education home, certificates, 192.
plan of studies, 191; method of teaching, 191.
Germany, France, and the peace of Europe; Gen. Ricciotti Garibaldi, 409.
Gibbons, Cardinal, 155.
Glasgow docks, 217.
Governmental interference in investments, 309, 404.

Hampden Institute, 290.
Hartlib, 152.
Hallays André, Paris of Yesterday and To-Day," 417.
Haubinda farm, 194; life of scholars, 195; manual training, 198; recreation, 196; religious teaching, 203; school work, 196.
Haussman, Baron, 417.
Hay, John, Secretary, 449.
Hay, John, reply to Gen'l Reyer, 254.
Hay-Herran treaty, 249.
Herodotus, 19.
Higher education of the Central West, The, C. F. Thwing, 382.
Historical movement of life, 342.
Holland, coercion by powers, 51; junction with Belgium, 34; treaty with Belgium, 1839, 52.
Holy See, problems of, 157.
Hubbard, Commander, report of, 251.
Hull, Miss Eleanor, 75.
Hungarian water way plan, 437.

Iambic pentameter, 369.
Ignorant suffrage, 289.
Industrial advance in Mexico, 239.
Industrial training at Haubinda, 198.
training in the Philippines, 6.
Inland ports of Germany, table, 227.
Integration, 354.
Irish epics, 72, 75.
Italian climatic changes, 295.
geologic changes, 297.
parai guarantees, 161.
Ita'y, how liberated, 180.
Ito, Marquis, the Japanese statesman, J. W. Foster, 261.
Ito, Marquis, appointed gov., 267; early hatred of foreigners, 267; ideas of reform, 270; interviewed, 271;
Iwakura embassy, 268; minister of public works, 270; mission to China, 273.
Iwakura, Prince, 268.
Iyeyashu, 262.

Jameson's raid, 58, 63.
Japan, Christianity in, 262.
constitution of, 269.
commercial development of, 272.
economic revolution, 98.
Japanese commerce, 262.
Java, educational system, 4.
Jeppe, Mr., 57.
Johnson, Lionel, 86.
Joseph, Episode of, 145.

Kaiser Wilhelm, Nordostsee canal, 216.
Kang, Yu Wei, 97.
Kaoru, Inouye, 265.
King Marc, 108, 121.
Knights of Labor and the Catholic Church, 166.
Kruger, President, 56.
Kubla, Khan, 328.
"Kullorch and Olwen," 108.

INDEX, VOL. IX

Lady Gregory's version of Irish epics, 72.
Lago, di Brecciano, The, 308.
Lago, puzzo, The, 310.
Language regulations in Belgium, 38.
Latin soldiers, 411.
Latin versification, 377.
Legend of Tristan and Isolt, Jos. Bédier, 103.
Legend of Tristan and Isolt, Central conception, 110; common theme, 115; genesis of, 103, 106; versions, 114.
Leo XIII., 155; attitude toward labor unions, 156.
attitude toward Italy, 164.
reformer, 166.
Leopold, King of the Belgians, 45.
Leibnitz, 342.
Les Lois des Howel de Bou, 111.
Leyds, Dr., 68.
Liberty of the Child, 201.
Lidi, 305.
Leitz, Dr. Hermann, 186; inspiration of, 202; his school, 191; school report, 203; teaching, 191.
Lifts in locks at La Louviere, 229.
Levy, 309.
London docks, 216.
Lyric metres, 375.

"Magnum opus" of Coleridge, 324.
Malarial fever in the Campagna, 315.
Manual labor in Haubinda school, 198.
U. S. schools, 290.
Mariani, Count, 177; proclamation of, 178.
Markets of East Asia, 283.
Maroquinis "coup d'etat," 258.
Marseilles harbor improvements, 431.
Mazzini, Policy of, 176.
McClean, President, 392.
Mediterranean supremacy, 413.
Memory, its object, 188, 208.
Merchant guilds, 452.
Merevale, Dean, in "Parallel Lives," 19.
Metre in English poetry, 376.
Mexico estates, 235; exports, 240; industrial products, 239; mines, 241.
Migration, Effects of, 14.
Militarism, French law of Sept. 23, 1798, 172.
future of, 185.
rise of, 170.
Milton as Romancer, "Nova Solyma," Richard Garnett, 140.
Mine wages in Mexico, 244.
Mineral production in Mexico, table, 242.
Missions in Celina, 102.
Metsuri, historian, 265.
Mobs at presidential conventions, 445.
Modern philosophy and evolution, 341.
Mohammedan instruction in Cairo, 6.
Monopolies in the Transvaal, 61.
Montesquieu, 171.
More, Paul Elmer, The epic of Ireland, 72.
Morley, Henry, 140, 184.
Moses, Bernard, The education of the stranger, 1.
Mutrius, Florus, 16.
Mutsu, Count, 271.
Myers, Frederick, 366, 375.

Napoleonic army, 173.
Nassau, Senior, Mr., 170.
National aid to southern schools, 290.
National Republican convention, 443.
National Democratic convention, 444.
Nationalism, its decline, 185.
Nationality and militarism, J. H. Rose, 170.
political treatment of, 286.
Negro, Southern and Northern opinions of, 285.
social treatment of, 287.
Nervous invalidism of H. Spencer, 347.
Newbolt, Henry, The future of English verse, 366.
Nicias, death of, 24.
Niebuhr, Estimate of Plutarch, 31.
Nordau, Max, The West in the East, 274.
North, Thos., Sir, Translation of Plutarch, 20.
Notes on the trusts, Frederic C. Culver, 452.
Nova Solyma, dates, 148; episodes, 145; prose disquisitions, 146; poetry, 150; theme, 143; utopian romance, 142.

Ocean vessels, 212; table, 213.
Ocean liners, table, 214.

Ode on dejection, 327.
Opium, Coleridge's use of, 321.
Oriental schools, 5.
Orloff, Count, 50.
Otho, Emperor, 23.

Palmerston, Lord, 44.
Pan-American conference, 249.
Panama, Revolution of 1903, 251; previous revolutions, 252, 257.
Panama canal diplomacy, 248, 448.
Papal Conclave, 164.
Papal choice, 154.
Papal See and Italy, 154.
Parallel Lives, adaptation by Shakespeare, 25.
ethical aspect, 20.
political aspect, 17.
psychological character, 21.
style, 26.
Paris of yesterday and to-day, André Hallays, 417.
growth of, 419.
Paris, Metamorphosis of, 417.
Parker, Judge, 450.
Peng Yü Lin, Admiral, 91.
Permanence of species, 340, 342.
Perry, Expedition to Japan, 261, 263.
Pestalozzi's idea realized, F. August Forel, 186.
Pestalozzi, 186.
Phlegraean fields, The, 303.
Physical exertion at Haubinda, 204.
Phillips, Stephen, 367.
Picts, The, 115.
Pirate episode in Nova Solyma, 147.
Pius X., attitude on educational problem, 167.
attitude on Christian democracy, 167.
discourse to Catholic association, 168.
life, 154.
moral qualities, 156.
Plaisancian clays in the Campagna, 298.
Plastic bodies, 354.
Pleiocene deposits in Italy, 294.
Plutarch; Robert Yelverton Tyrrell, 15.
Plutarch, birth, 15.
comparisons with other writers, 23, 26.
knowledge of Latin writers, 16.
life, 17.
writings, 18, 20.
style, 32.
Pope, The, personal liberty of, 158.
moral liberty, 163.
seclusion, 159.
Popular national schools, 206.
Pre-Socratic ideas of evolution, 338, 344.
Presidential Campaign, J. B. Bishop, 441.
Primary aspect of evolution, 354.
Primary teaching staff, 189.
Problems of backward races, 285.
Problems of Greater Britain, 55, 59, 63.
Problems of the Negro, Chas. W. Eliot, 285.
Processes, Spencer's two, 353.
Proclamations of William of Nassau, 1813, 33, 1815, 36.
Proper sphere of government, 350.
Protection and militarism, 183.
Prussian canal bill, 1899, 426.
Psychology, Spencer, 351.
Publicity of corporations, 399.

Race characteristics, 3.
Racial impairment, 285.
Railway systems in Mexico, 236.
Railway transportation, 210.
Raphael, 130.
Reddie, Dr., School of, 190.
Regulation of corporations, 395.
Reitz, President, 64.
Religious motives in war, 184.
Renan, M., 79.
Republican party platform, 1904, 449.
Rhyme in English verse, 366, 375.
Roman Campagna, The, Sir Archibald Geikie, 292.
Roman Campagna—adaptability to settlement, 294; desolation, 315; extent, 293; geologic periods, 294.
Roman question of the future, 164.
Roosevelt Administration, 448.
Roosevelt, Prest., candidacy of, 441.
Roosevelt, Prest., message regarding Panama, 253.
Root, Sec'y, 257.
Rose, J. H., Nationality and militarism, 170.
Rotterdam, Ocean commerce of, 218.
Russia, ocean trade, table, 219.
result of militarism, 183.
Russian protectorate over China, 284.
waterway plans, 438.
Royce, Jos., Herbert Spencer and his

contribution to the concept of evolution, 335.

Sacred college, sittings of, 154.
School, Aim of the, 186.
Scientific work in State colleges, 387.
Sea Lighters, German, 220.
Seaport channels, 215.
Seaports, German, Trade of, 215.
Seneca, 30.
Seine, Navigable depth of, 217.
Seward, Sec'y, letter to Amer. minister, 255.
Shakespeare, Coleridge's criticism, 321.
Ship lifts in canals, 435.
Societe des Amis des Monuments Parisiens, 418.
Spanish, Teaching of, in the Philippines, 11.
Spencer, Herbert, and his contribution to the concept of evolution, Jos. Royce, 335.
Spencer, Herbert, formulas of evolution, 353; independence, 346; leading ideas, 349; vagueness, 363; value of his concept, 358.
Spooner Act, 249.
Squares of Paris, The, 417.
State control of corporations, 396.
State universities, 386; in the Central West, 383.
Stress in poetry, 376.
Von Strasburg, Thomas, and Gottfried, 127.
Subaerial agencies in the Campagna, 312.
"Superstition," Treatise on, 30.
Svampa, Cardinal, 155.

Table talk, 323.
Tain Bo. Cuailue, 73.
Taxation in the low countries, 38.
Teachers' egoism, 200.
Theme of Tristan and Isolt, 115.
Theory of energy, Spencer, 357.
Thwing, C. F., The higher education of the West, 382.
Tiber, Changes in course of, 309, 313.
Transvaal, Language laws, 60.
population of, 53.
Transvaal versus Great Britain, 69.
Travertine deposits in Italy, 399.
Treaty obligations with Columbia, 255.
Treaty with Japan, 264; revision of, 271.
Trees in Paris streets, 423.
Tristan and Isolt, theme, 115; unity, 116; versions.
Tristan, Character of, 108.
Trusts and the public, The, Chas. A. Conant, 394.
Trusts, Benefits of, table, 454; combinations, 455; monopolies, 453.
Tuff, Deposits of, in Italy, 297, 301; marine origin, 304.
Tyrrell, Robt. Yelverton, Plutarch, 15.

Uitlanders, Emancipation, 51; grievances, 61; petition of, 54, 58.
Unification of phenomena, 360.
U. S. International Commerce, 432.

Van der Vlugh, D. W., 69.
Van Maanen, 42.
Von Moltke, Plans of, 412.
Vegus, H. L., The economic condition of Mexico, 235.
Version des Jongleurs, 104.
Volcanic cones in the Campagna, 307.
Volcanic periods in Italy, 298; submarine vents, 303.

Wall Street and corporation laws, 405.
War of the peoples, a failure, 179.
Waterways in Europe, A. von Weber-Ebenhof, 210, 426.
Waterways of Austria, 231; Belgium, 228; England, 229; France, 220, 430; Germany, 223, 426; Holland, 220; Hungary, 232; Italy, 220; Russia, 233, 438.
Von Weber-Ebenhof, Waterways in Europe, 210, 426.
West in the East, The, Max Nordau, 274.
White race supremacy, 275.
William of Nassau, 33; proclamations, 33, 36, 41; perfidy, 46.
Williams, F. W., The future of China, 87.
William II. at the Vatican, 161.
Women teachers in the Philippines, 11.
World's fairs at Paris, 417.
Working classes and the Catholic Church, 167.
Yellow races, 278.
Young Europe association, 176.